



NATIONAL BOARD FOR TECHNICAL EDUCATION

PLOT B BIDA ROAD, P.M.B. 2239, KADUNA, NIGERIA

IN COLLABORATION WITH



NATIONAL OCCUPATIONAL STANDARDS (NOS)

PASTURE AND RANGE MANAGEMENT LEVELS 1 - 3

JUNE, 2026



**RENEWED HOPE
IN AGRICULTURE**

PREFACE

The development of the National Occupational Standards (NOS) for the agricultural sector marks another important milestone in Nigeria's commitment to strengthening Technical and Vocational Education and Training (TVET), promoting skills development, and improving workforce productivity. These standards have been developed to provide nationally recognized benchmarks for the knowledge, skills, and competencies required for effective performance in various agricultural occupations. The National Occupational Standards were developed through a collaborative process involving industry experts, employers, professional bodies, regulatory agencies, training institutions, development partners, and other key stakeholders. Their contributions ensured that the standards reflect current industry practices, emerging technologies, and the competency requirements of the modern agricultural sector. I wish to express my sincere appreciation to the Honourable Minister of Education for providing the policy direction that made this initiative possible. I also acknowledge the support of the Honourable Minister of Agriculture and Food Security and the Honourable Minister of Livestock Development for their commitment to advancing agricultural skills development in Nigeria. I extend my profound gratitude to the Tertiary Education Trust Fund (TETFund) for its intervention and support, which facilitated the development of these National Occupational Standards. I also appreciate the invaluable contributions of the Sector Skills Council for Agriculture (SSC4A), members of the Implementation Committee, resource persons, industry practitioners, employers, professional associations, regulatory agencies, the French Embassy in Nigeria, development partners, and all stakeholders who contributed their expertise throughout the development process. These National Occupational Standards will serve as an important reference for competency-based training, assessment, certification, apprenticeship, Recognition of Prior Learning (RPL), and workforce development within the agricultural sector. It is my expectation that all implementing institutions and industry partners will effectively utilize these standards to enhance the quality, relevance, and competitiveness of agricultural skills development in Nigeria. I commend all stakeholders for their dedication and commitment to this important national assignment and look forward to the successful implementation of these National Occupational Standards for the benefit of the agricultural sector and the nation as a whole.

Professor Idris M. Bugaje, FNSE
Chairman, Implementation Committee

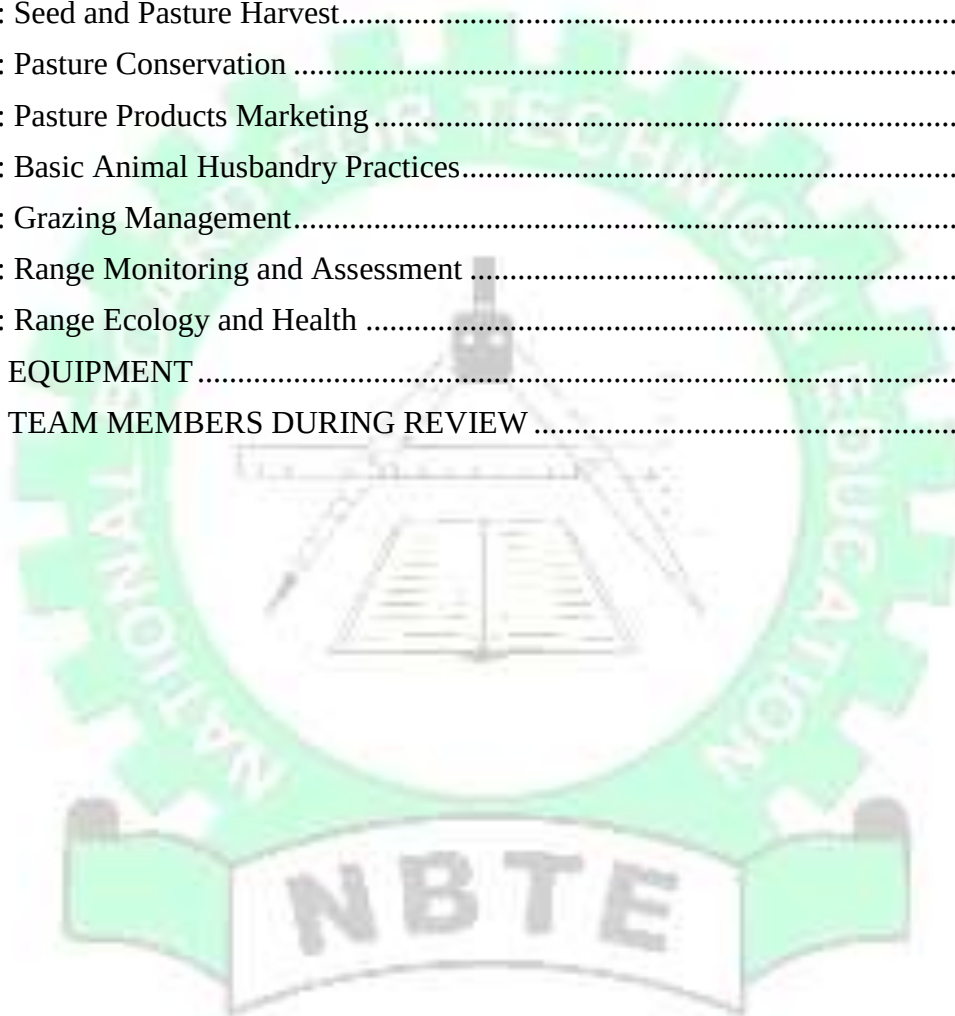
EXECUTIVE SECRETARY

National Board for Technical Education (NBTE), Kaduna

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**NATIONAL SKILLS QUALIFICATIONS/NATIONAL OCCUPATIONAL
STANDARDS/ (NSQ/NOS)**

IN

PASTURE AND RANGE MANAGEMENT

LEVEL 1

JUNE, 2026



GENERAL INFORMATION

OVERVIEW

This qualification is designed for individuals who are interested in pursuing a career in **Pasture production and Range Management** for the award of National Skills Qualifications (NSQ)/National Occupational Standards (NOS). It is aimed at producing competencies necessary to support in **Pasture and Range Management** at **NSQ Level 1**.

This qualification is subject to review as and when the need arises.

QUALIFICATION PURPOSE

The qualification is designed to produce competent entry level Pasture and Range Management assistant with knowledge, skills, and attitude required to perform Pasture and Range Management activities under supervision using basic precision agriculture principles and tools.

QUALIFICATION REQUIREMENTS

All Candidates must be:

- At least sixteen (16) years of age
- Medically fit
- Mentally fit (Mental alertness)
- A Nigerian citizen
- Other nationals should present international passport, residence permit or Parent work permit.
- Vetted
- Interest in agricultural production and related support operations;
- Ability to carry out simple practical tasks under supervision.

QUALIFICATION OBJECTIVES

At the end of this qualification, the learners should be able to:

1. Comply with occupational health, safety and environmental requirements in pasture production and range management.
2. Communicate effectively with supervisors, colleagues, customers, and other stakeholders in pasture production and range management.
3. Work effectively as a member of a team to achieve pasture production objectives.
4. Select the most appropriate site for pasture production under supervision.
5. Apply appropriate Sustainable Land Preparation practices under supervision
6. Perform routine Pasture Protection practices under supervision.
7. Apply basic animal husbandry practices to support the growth and productivity of the pasture and range enterprise under supervision.
8. Carry out identification of common forage Species
9. Identify livestock-pasture relationship
10. Perform environmental stewardship and conservation under supervision.

NATIONAL SKILLS QUALIFICATION TABLE

Unit No	Reference Number	NSQ Title	Credit Value	Guided Learning Hours	Practice Time	Remarks
Unit 001	AGR/PRM/001/L1	Occupational health and safety in Pasture production and range management	2	20	60	Mandatory
Unit 002	AGR/PRM/002/L1	Communication System in a Work Environment	1	10	30	Mandatory
Unit 003	AGR/PRM/003/L1	Team Work	1	10	30	Mandatory
Unit 004	AGR/PRM/004/L1	Site Selection	3	30	90	Mandatory
Unit 005	AGR/PRM/005/L1	Land Preparation	3	30	90	Mandatory
Unit 006	AGR/PRM/006/L1	Pasture Protection	3	30	90	Mandatory
Unit 007	AGR/PRM/007/L1	Basic Animal Husbandry Practices	3	30	90	Mandatory
Unit 008	AGR/PRM/008/L1	Introduction to Forage Species Identification	1	10	30	Mandatory
Unit 009	AGR/PRM/009/L1	Livestock-Pasture Relationship	1	10	30	Mandatory
Unit 010	AGR/PRM/010/L1	Environmental Stewardship and Conservation	1	10	30	Mandatory
TOTAL			19	190	570	

QUALIFICATION STRUCTURE

This qualification comprises a total of ten (10) Mandatory Units, with a credit value of 19 and 190 Guided Learning Hours (GLH) across the full qualification. One (1) credit is equivalent to ten (10) GLH. Guided Learning Hours are the time a learner spends in the

classroom, workshop and laboratory of the Skills Training Centre (STC), being taught, instructed, supervised or assessed by a qualified trainer, facilitator or assessor.

In addition to the GLH, the qualification requires at least twice or thrice the GLH as practice time. Practice time is the time a learner is expected to spend applying the skills of each unit in a real workplace environment, carrying out the same tasks repeatedly until performance becomes consistent, accurate and habitual to the standard the qualification demands. It is undertaken under the guidance of a workplace supervisor, recorded in the learner's logbook and duly endorsed. Practice time is the principal setting where core assessment is conducted. It is through repeated performance in the workplace that a learner's achievement of the Learning Outcomes and Performance Criteria is judged and evidenced. Practice time is an additional requirement to GLH and does not replace them.

To achieve this qualification, the learner must complete all mandatory units, undertake the prescribed practice time, and accumulate the minimum credit value approved by NBTE. Credit is awarded only when a learner has been assessed as competent against all Learning Outcomes and Performance Criteria of a unit.



GENERAL GUIDE

Unit title	Provides a clear explanation of the content of the unit.
Unit number	The unique number assigned to the unit.
Unit reference	The unique reference number given to each unit at qualification approval by NBTE.
Unit level	Denotes the level of the unit within the National Skills Qualification Framework (NSQF).
Unit credit value	The value that has been given to the unit based on the expected learning time for an average learner. 1 credit = 10 learning hours.
Unit aim	Provides a brief outline of the unit content.
Learning outcome	A statement of what a learner will know, understand or be able to do as a result of a process of learning.
Assessment criteria	A description of the requirements a learner must achieve to demonstrate that a learning outcome has been met.
Unit assessment guidance	Any additional guidance provided to support the assessment of the unit.
Unit guided learning hours	The average number of hours of supervised or directed study time or assessment required to achieve a qualification or unit of a qualification.

UNIT 001: OCCUPATIONAL HEALTH AND SAFETY IN PASTURE PRODUCTION AND RANGE MANAGEMENT

Unit reference number: AGR/PRM/001/L1

Level: 1

Credit value: 2

Guided learning hours: 20 hours

Practice Time: 60 hours

Unit Purpose: This unit is designed to equip the learners with basic knowledge and skills on health and safety precautions in pasture production and range management.

UNIT ASSESSMENT/EVIDENCE REQUIREMENTS:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment Methods to be used may Include:

1. Direct Observation (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Personal Statement (PS) or Reflective Journal (RJ)
5. Assignment (ASS)
6. Recognition of Prior Learning (RPL)

UNIT 001: Occupational health and safety in Pasture production and range management

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: Explain the regulations and safety requirements in Pasture production and range management	1.1	Explain the basic safety rules in pasture production and range management		
	1.2	List personal protective equipment (PPE)		
	1.3	Explain how to use the PPE		
LO 2: Explain the hazards involved in Pasture Production	2.1	List the common hazards associated with pasture production and range management		
	2.2	List the causes of hazards in pasture production and range management		
	2.3	Explain how to prevent hazards in pasture production and range management		
LO 3: Describe protection measures against hazards in pasture production and range management.	3.1	Describe common safety signs used in pasture production and range management		
	3.2	Explain importance of safety signs to prevent hazards in pasture production and range management		
	3.3	Explain first aid procedures against fire, accidents and predators attack		
	3.4	Describe common safety signs used in pasture production and range management		
LO 4: Demonstrate the use	4.1	Identify the components of PPE		

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Learner's Signature: _____ Date: _____ Assessors Signature: _____ Date: _____ IQA Signature (if sampled) Date: _____

EQA Signature (if sampled) Date:

UNIT 002: COMMUNICATION SYSTEM IN A WORK ENVIRONMENT

Unit reference number: AGR/PRM/002/L1

Level: 1

Credit value: 1

Guided learning hours: 10 hours

Practice Time: 30 hours

Unit Purpose: This unit is designed to equip learners with the knowledge and skills required for effective communication in Pasture and Range Management workplace.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 002: Communication System in a Work Environment

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: <i>Use a simple Communication System in a pasture and range environment</i>	1.1	Use simple verbal means to pass on necessary information								
	1.2	Identify signs and symbols to pass on necessary information								
	1.3	Use symbols and signs appropriately								
LO 2: <i>Develop the ability to identify the source of information in a pasture and range environment</i>	2.1	Identify the Sources of information in an organization or range Environment								
	2.2	Communicate appropriately with the source of information								
	2.3	Use the simple information flow systems in a range environment								
	2.4	Use information to avoid challenges in Identifying a work situation								
	2.5	Communicate findings in accordance to procedure in a range environment								
LO 3: <i>Demonstrate the various means of communication in pasture and range environment</i>	3.1	Identify the various communication equipment in the range								
	3.2	Use effectively the various simple communication equipment in a range environment								
	3.3	Share information effectively to the right personnel								
	3.4	Communicate effectively using symbols, signs and codes								
	3.5	Follow instructions in line with ethics of the range								

UNIT 003: TEAMWORK

Unit reference number: AGR/PRM/003/L1

NSQ Level: 1

Credit value: 1

Guided learning hours: 10 hours

Practice Time: 30 hours

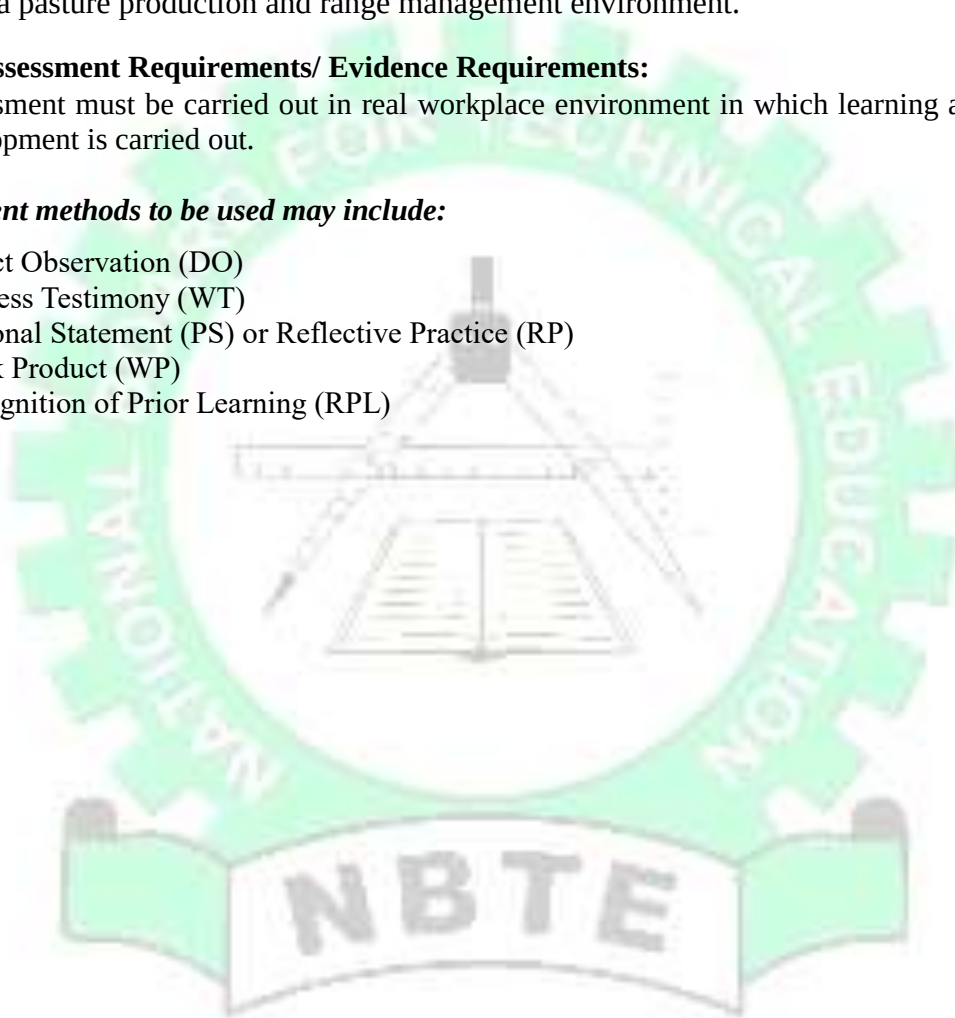
Unit Purpose: The purpose of this unit is to equip entry-level learners with the fundamental skills required to work productively with others under direct supervision within a pasture production and range management environment.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)



Unit 003: Teamwork

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type						Evidence Ref. Page No.
LO 1: Explain the importance of teamwork in the workplace	1.1.	Identify the goals and objectives of the work team.							
	1.2.	State the roles and responsibilities of self and other team members.							
	1.3.	Explain the benefits of working collaboratively to achieve pasture targets							
LO 2: Participate effectively in team activities under supervision	2.1	Carry out assigned tasks within the team accurately and promptly							
	2.2	Assist colleagues when requested or when appropriate to complete tasks							
	2.3	Follow team rules, workplace ethics, and supervisor instructions.							
	2.4	Seek clarification from supervisors or senior colleagues when team instructions are unclear.							
LO 3: Maintain positive working relationships	3.1	Communicate clearly and politely with team members.							
	3.2	Listen to and respect inputs, opinions, and diversity within the team.							
	3.3	Report any challenges or interpersonal difficulties to the supervisor immediately							
Learner's Signature:			Date:						
Assessor's Signature:			Date:						
IQA Signature (if sampled):			Date:						
EQA Signature (if sampled):			Date:						

Learner's Signature: Date: Assessors Signature: Date: IQA Signature (if sampled) Date:

EQA Signature (if sampled) Date:



UNIT 004: SITE SELECTION

Unit reference number: AGR/PRM/004/L1

Level: 1

Credit value: 3

Guided learning hours: 30 Hours

Practice Time: 90 Hours

Unit Purpose: This unit is designed to equip the learners with the knowledge and skills required to locate suitable land for pasture production and range management.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)



Unit 004: Site Selection

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. Page No.			
The learner will:		The learner can:									
LO 1: Explain land ownership system	1.1	List the land ownership system in Nigeria									
	1.2	Explain the land ownership system in Nigeria									
	1.3	State the importance of land ownership for pasture production and range management									
	1.4	Recognize the status of the land									
LO 2: Explain the topography of a site	2.1	Explain the following land features: - Rocky land - Hilly land - Water logged - Flat land - Undulating land - Gently sloppy land									
	2.2	- State the importance of flat land and gently sloppy land in Pasture production and range management									
	2.3	State the factors for determining a suitable site for Pasture Cultivation									
LO 3: Explain the rainfall pattern of an area	3.1	Describe the rainfall pattern of the area									
	3.2	Explain the regularity of the rainfall									
	3.3	Explain the importance of rainfall pattern in pasture production and range management									
LO 4: Explain the vegetation and soil types of the site	4.1	Explain whether vegetation is grass dominant, trees, shrubs, sparse and dense									
	4.2	Identify soil types									

UNIT 005: LAND PREPARATION

Unit reference number: AGR/PRM/005/L1

Level: 1

Credit value: 3

Guided learning hours: 30 hours

Practice Time: 90 hours.

Unit Purpose: This unit is designed to equip the learners with knowledge and skills on land preparation for pasture production and range management.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)



UNIT 005: Land Preparation

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref.	Page No.
The learner will:		The learner can:			
LO 1: Explain land clearing methods	1.1	Explain the types of clearing methods			
	1.2	List the types of equipment and tools used for land clearing			
	1.3	Explain the precautionary measure for this exercise			
LO 2: Explain land preparation methods	2.1	List the operations involved in land preparation			
	2.2	Explain the term ploughing, harrowing and ridging			
	2.3	List tools and equipment in land preparation			
LO 3: Select tools for land preparation	3.1	Identify tools for clearing operation			
	3.2	Identify the equipment and tools for ploughing, harrowing and ridging operations			
	3.3	State the precautionary measures in applying each of the equipment and tools			
LO 4: Prepare the land for Pasture Cultivation	4.1	Carry out physical inspection of the land			
	4.2	Carry out land tillage operations			
	4.3	Carry-out land preparation using animal traction/machinery			
	4.4	Carry out basic maintenance of the tools used			

Learner's Signature: Date: Assessors Signature: Date: IQA Signature (if sampled) Date:

EQA Signature (if sampled) Date:

UNIT 006: PASTURE PROTECTION

Unit reference number: AGR/PRM/006/L1

Level: 1

Credit value: 3

Guided learning hours: 30 hours

Practice Time: 90 hours

Unit Purpose: This unit is designed to equip learners with the knowledge and skills of establishing pasture protection.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 006: Pasture Protection

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type	Evidence Ref. Page No.
LO 1: Explain the fencing methods for Pasture Protection	1.1	List the importance of fencing in Pasture Protection		
	1.2	List the types of fencing for Pasture Protection		
	1.3	Identify the materials used in fencing for Pasture Protection		
LO 2: Explain fire tracing for Pasture Protection	2.1	List the importance of fire tracing in Pasture Protection		
	2.2	Recognise the methods in fire tracing		
	2.3	Explain the timing for fire tracing		
LO 3: Carry out a simple fencing exercise	3.1	Identify the suitable fencing type		
	3.2	Select the materials to be used for the fencing type		
	3.3	Identify the precautionary measures to be applied		
	3.4	Carry out the fencing		
LO 4: Carry out fire tracing exercise	4.1	Choose the fire tracing method		
	4.2	Carry out a simple fire tracing exercise		
	4.3	State the precautionary measures to be applied		
LO 5: Protect an established pasture	5.1	Mention the reasons for pasture protection		
	5.2	Carry out physical observation of site		
	5.3	Carry out fencing using appropriate methods		
	5.4	Carry out fire tracing operations		

Learner's Signature: Date: Assessors Signature: Date: IQA Signature (if sampled) Date:

EQA Signature (if sampled)

Date:

UNIT 007: BASIC ANIMAL HUSBANDRY PRACTICES

Unit reference number: AGR/PRM/007/L1

Level: 1

Credit value: 3

Guided learning hours: 30 hours

Practice Time: 90 hours

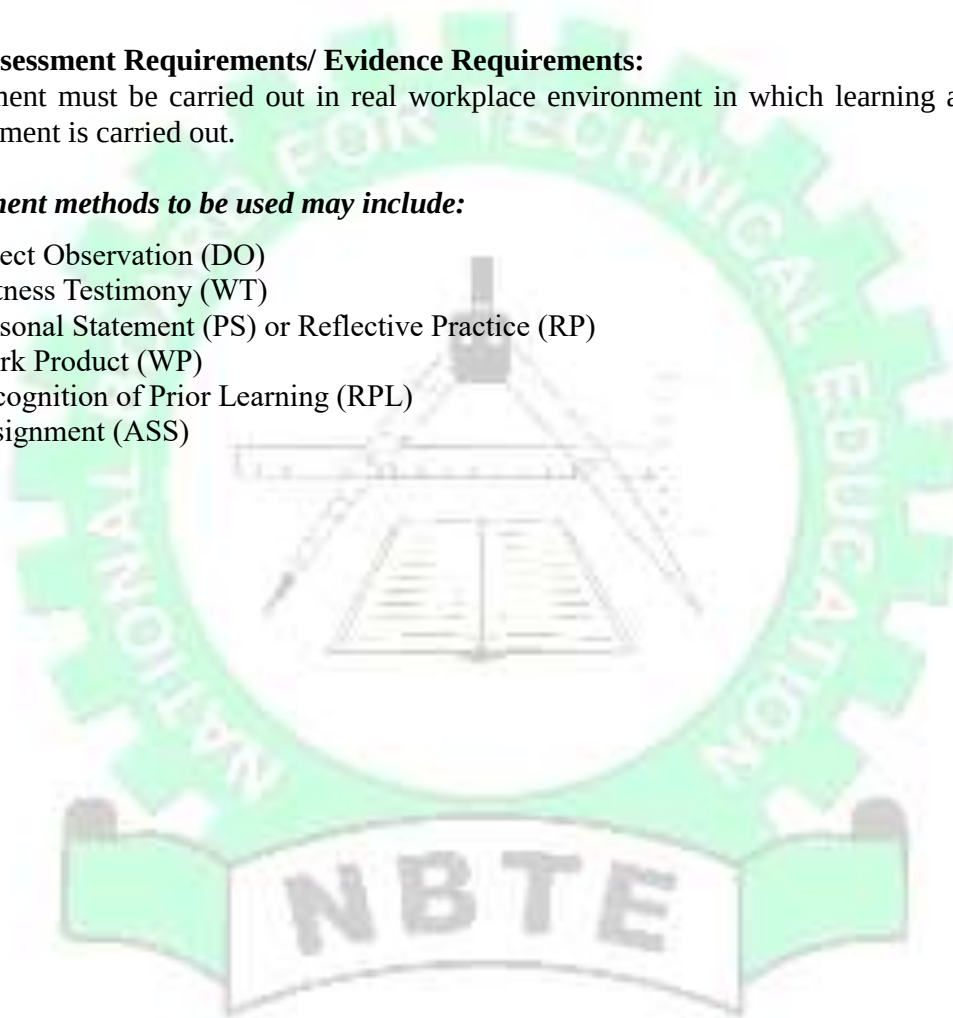
Unit Purpose: This unit is designed to equip learners with the knowledge and skills of basic animal husbandry operations within pasture and rangeland systems.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 007: Basic Animal Husbandry Practices

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref.	Page No.
The learner will:		The learner can:			
LO 1: Recognise the major classes of livestock associated with pasture production and range management.	1.1	Identify common livestock species raised on pasture.			
	1.2	Differentiate between ruminant and non-ruminant animals.			
	1.3	Identify breeds of cattle, sheep and goats commonly found in Nigeria.			
	1.4	Explain the importance of pasture to livestock production.			
LO 2: Explain the basic husbandry requirements of grazing animals.	2.1	Identify feed requirements of grazing livestock.			
	2.2	Identify water requirements of livestock.			
	2.3	Explain the importance of shelter and shade.			
LO 3: Assist in routine livestock Management activities.	3.1	Provide water to livestock.			
	3.2	Assist in feeding livestock.			
	3.3	Assist in moving animals between grazing areas.			
	3.4	Clean feeding and watering facilities.			
	3.5	Maintain simple livestock handling facilities.			
LO 4: Apply animal welfare and safety practices.	4.1	Handle animals humanely.			
	4.2	Observe personal safety measures when working with livestock.			
	4.3	Identify signs of animal stress.			
	4.4	Report sick or injured animals.			
LO 5: Explain basic farm records	5.1	Identify types of farm records.			
	5.2	Explain the importance of record keeping.			
	5.3	State the uses of farm records.			

Learner's Signature: Date: Assessors Signature: Date: IQA Signature (if sampled) Date:

EQA Signature (if sampled)

Date:



UNIT 008: INTRODUCTION TO FORAGE SPECIES IDENTIFICATION

Unit reference number: AGR/PRM/008/L1

Level: 1

Credit value: 1

Guided learning hours: 10 hours

Practice Hours: 30 hours

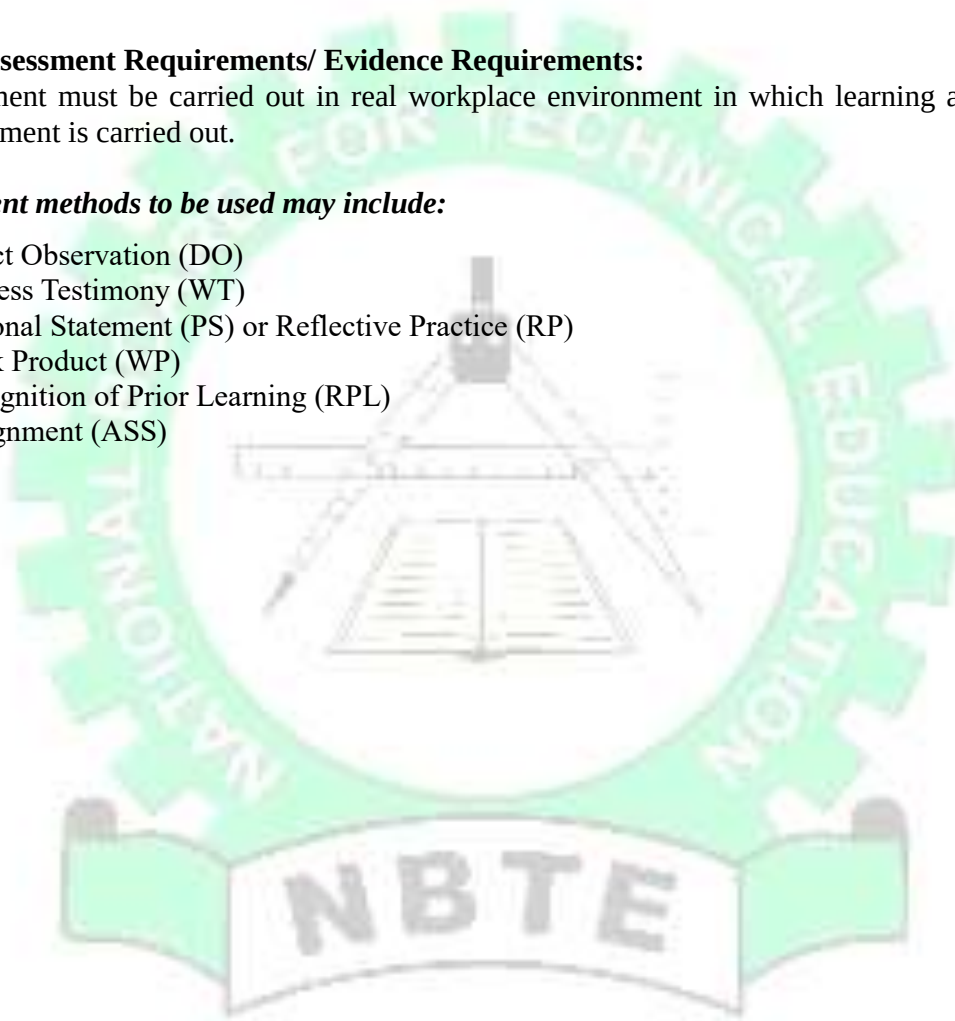
Unit Purpose: This unit is designed to equip learners with the knowledge and skills of identifying common forage species used in pasture production and range management.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 008: Introduction To Forage Species Identification

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
LO 1: Identify the major forage species used in pasture production and range management (indigenous and English languages)	1.1	Identify common pasture grasses.			
	1.2	Identify common pasture legumes.			
	1.3	Identify common browse plants.			
	1.4	State the characteristics of desirable pasture species.			
	1.5	State the characteristics of undesirable pasture species.			
LO 2: Distinguish forage species used in livestock production	2.1	Differentiate between grasses and legumes.			
	2.2	Differentiate between annual and perennial forage species.			
	2.3	Identify forage species suitable for different localities.			
	2.4	Explain the importance of forages in pasture production and range management.			
LO 3: Identify forage species in the field	3.1	Conduct field observation of forage species.			
	3.2	Identify forage species using their characteristics.			
	3.3	Separate desirable and undesirable species.			
	3.4	Record identified species.			

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:

Unit 009: Livestock- Pasture Relationship

UNIT REFERENCE NUMBER: AGR/PRM/009/L1

Level: 1

Credit value: 1

Guided learning hours: 10

Practice Time: 30 Hours

Unit Purpose: This unit is designed to equip learners with the knowledge and skills required for understanding the relationship between livestock and pasture.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



UNIT 009: Livestock- Pasture Relationship

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: Explain the role of pasture in livestock production	1.1	Explain the importance of pasture to livestock.		
	1.2	Explain the role of forage in animal nutrition.		
	1.3	State the effects of poor-quality pasture on livestock.		
	1.4	Explain seasonal feed availability.		
LO 2: Explain grazing behaviour of livestock	2.1	Identify grazing habits of cattle.		
	2.2	Identify grazing habits of sheep and goats.		
	2.3	Explain factors affecting grazing behaviour.		
	2.4	Explain the effects of overgrazing		
LO 3: Apply good pasture utilization practices	3.1	Explain the importance of rotational grazing		
	3.2	Identify suitable grazing periods		
	3.3	Maintain adequate pasture cover.		

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:

UNIT 010: ENVIRONMENTAL STEWARDSHIP AND CONSERVATION

Unit reference number: AGR/PRM/010/L1

Level: 1

Credit value: 1

Guided learning hours: 10 hours

Practice Time: 30 hours

Unit Purpose: This unit is designed to equip students with the knowledge and skills on environmental stewardship and conservation in pasture production and range management.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Witness Testimony (WT)
3. Personal Statement (PS) or Reflective Practice (RP)
4. Work Product (WP)
5. Recognition of Prior Learning (RPL)
6. Assignment (ASS)



Unit 010: Environmental Stewardship and Conservation

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref.	Page No.
The learner will:		The learner can:			
LO 1: Explain environmental protection measures	1.1	Explain environmental conservation practices.			
	1.2	Identify causes of soil erosion.			
	1.3	Identify causes of land degradation.			
	1.4	Explain effects of bush burning.			
LO 2: Apply environmental conservation measures	2.1	Implement soil conservation measures.			
	2.2	Implement water conservation practices.			
	2.3	Participate in fire prevention activities.			
	2.4	Protect pasture from environmental degradation			
LO 3: Maintain environmental quality	3.1	Identify environmentally harmful activities.			
	3.2	Dispose of farm waste safely.			
	3.3	Protect water sources from contamination.			
	3.4	Report environmental hazards.			

Learner's Signature:

Date:

Assessor's Signature:

Date:

IQA Signature (if sampled):

Date:

EQA Signature (if sampled):

Date:

**NATIONAL SKILLS QUALIFICATIONS/NATIONAL OCCUPATIONAL
STANDARDS/ (NSQ/NOS)**

IN

PASTURE AND RANGE MANAGEMENT

LEVEL 2

JUNE, 2026



GENERAL INFORMATION OVERVIEW

This qualification is designed for individuals who are interested in pursuing a career in **Pasture production and Range Management** for the award of National Skills Qualifications (NSQ)/National Occupational Standards (NOS). It is aimed at producing competencies necessary to support in **Pasture and Range Management** at **NSQ Level 2**.

This qualification is subject to review as and when the need arises.

QUALIFICATION PURPOSE

The qualification is designed to produce competent entry level Pasture and Range Management assistant with knowledge, skills, and attitude required to perform routine Pasture and Range Management activities under supervision using basic precision agriculture principles and tools.

QUALIFICATION REQUIREMENTS

All Candidates must be:

- At least seventeen (17) years of age
- Medically fit
- Mentally fit (Mental alertness)
- A Nigerian citizen
- Other nationals should present international passport, residence permit or Parent work permit.
- Vetted
- Interest in agricultural production and related support operations;
- Ability to carry out routine practical tasks with minimal supervision.

QUALIFICATION OBJECTIVES

At the end of this qualification, the learner should be able to:

1. Apply safe and healthy work practices in pasture production and range management.
2. Communicate effectively with supervisors, colleagues, customers, and other stakeholders in pasture production and range management.
3. Work effectively as a member of a team to achieve pasture production objectives.
4. Select the most appropriate site for pasture production under minimal supervision.
5. Apply appropriate sustainable land preparation practices under minimal supervision
6. Perform routine Pasture Protection practices under minimal supervision.
7. Carry out pasture seeds production under minimal supervision
8. Sow pasture seeds
9. Apply basic animal husbandry practices to support the growth and productivity of the pasture and range enterprise under minimal supervision.
10. Perform grazing management activities under minimal supervision.
11. Carryout climate smart pasture production and range management practices
12. Carryout forage yield assessment techniques.
13. Conduct pasture rehabilitation, restoration and water development.
14. Carryout conflict-sensitive grazing management practices.

NATIONAL SKILLS QUALIFICATION TABLE

Unit No	Reference Number	NSQ Title	Credit Value	Guided Learning Hours	Practice Time	Remarks
Unit 001	AGR/PRM/001/L2	Occupational health and safety	1	10	30	Mandatory
Unit 002	AGR/PRM/002/L2	Communication System in a Pasture and Range environment	1	10	30	Mandatory
Unit 003	AGR/PRM/003/L2	Teamwork	1	10	30	Mandatory
Unit 004	AGR/PRM/004/L2	Site Selection	1	10	30	Mandatory
Unit 005	AGR/PRM/005/L2	Land Preparation	3	30	90	Mandatory
Unit 006	AGR/PRM/006/L2	Pasture Protection	3	30	90	Mandatory
Unit 007	AGR/PRM/007/L2	Pasture Seeds Production	3	30	90	Mandatory
Unit 008	AGR/PRM/008/L2	Sowing of Pasture Seeds	3	30	90	Mandatory
Unit 009	AGR/PRM/009/L2	Basic Animal Husbandry Practices	3	30	90	Mandatory
Unit 010	AGR/PRM/010/L2	Grazing Management	3	30	90	Mandatory
Unit 011	AGR/PRM/011/L2	Climate Smart Pasture Production and Range Management	3	30	90	Mandatory
Unit 012	AGR/PRM/012/L2	Forage Yield Assessment	2	20	60	Mandatory
SUB-TOTAL			27	270	810	
Unit 013	AGR/PRM/013/L2	Pasture Rehabilitation, Restoration and Water Development	1	10	30	Optional
Unit 014	AGR/PRM/014/L2	Conflict-Sensitive Grazing Management	3	30	90	Optional

SUB-TOTAL	4	40	120	
GRAND-TOTAL	31	310	930	

QUALIFICATION STRUCTURE

This qualification comprises a total of twelve (12) mandatory units with 27 Credit Value and 270 Guided Learning Hours across the full unit set and two (2) optional units with four (4) credit Value and 40 Guided Learning Hours. Guided Learning Hours are the time a learner spends in the classroom, workshop and laboratory of the Skills Training Centre (STC), being taught, instructed, supervised or assessed by a qualified trainer, facilitator or assessor.

In addition to the GLH, the qualification requires at least twice or thrice the GLH as practice time. Practice time is the time a learner is expected to spend applying the skills of each unit in a real workplace environment, carrying out the same tasks repeatedly until performance becomes consistent, accurate and habitual to the standard the qualification demands. It is undertaken under the guidance of a workplace supervisor, recorded in the learner's logbook and duly endorsed. Practice time is the principal setting where core assessment is conducted. It is through repeated performance in the workplace that a learner's achievement of the Learning Outcomes and Performance Criteria is judged and evidenced. Practice time is an additional requirement to GLH and does not replace them.

To achieve this qualification, the learner must complete all mandatory units, undertake the prescribed practice time, and accumulate the minimum credit value approved by NBTE. Credit is awarded only when a learner has been assessed as competent against all Learning Outcomes and Performance Criteria of a unit

GENERAL GUIDE

Unit title	Provides a clear explanation of the content of the unit.
Unit number	The unique number assigned to the unit.
Unit reference	The unique reference number given to each unit at qualification approval by NBTE
Unit level	Denotes the level of the unit within the National Skill Qualification framework NSQF.
Unit credit value	The value that has been given to the unit based on the expected learning time for an average learner. 1 credit = 10 learning hours
Unit aim	Provides a brief outline of the unit content.
Learning outcome	A statement of what a learner will know, understand or be able to do, as a result of a process of learning.
Assessment criteria	A description of the requirements a learner must achieve to demonstrate that a learning outcome has been met.
Unit assessment guidance	Any additional guidance provided to support the assessment of the unit.
Unit guided learning hours	The average number of hours of supervised or directed study time or assessment required to achieve a qualification or unit of a qualification.

UNIT 001: OCCUPATIONAL HEALTH AND SAFETY IN PASTURE PRODUCTION AND RANGE MANAGEMENT

Unit reference number: AGR/PRM/001/L2

NSQ level: 2

Credit value: 1

Guided learning hours: 10 hours

Practice Time: 30 hours

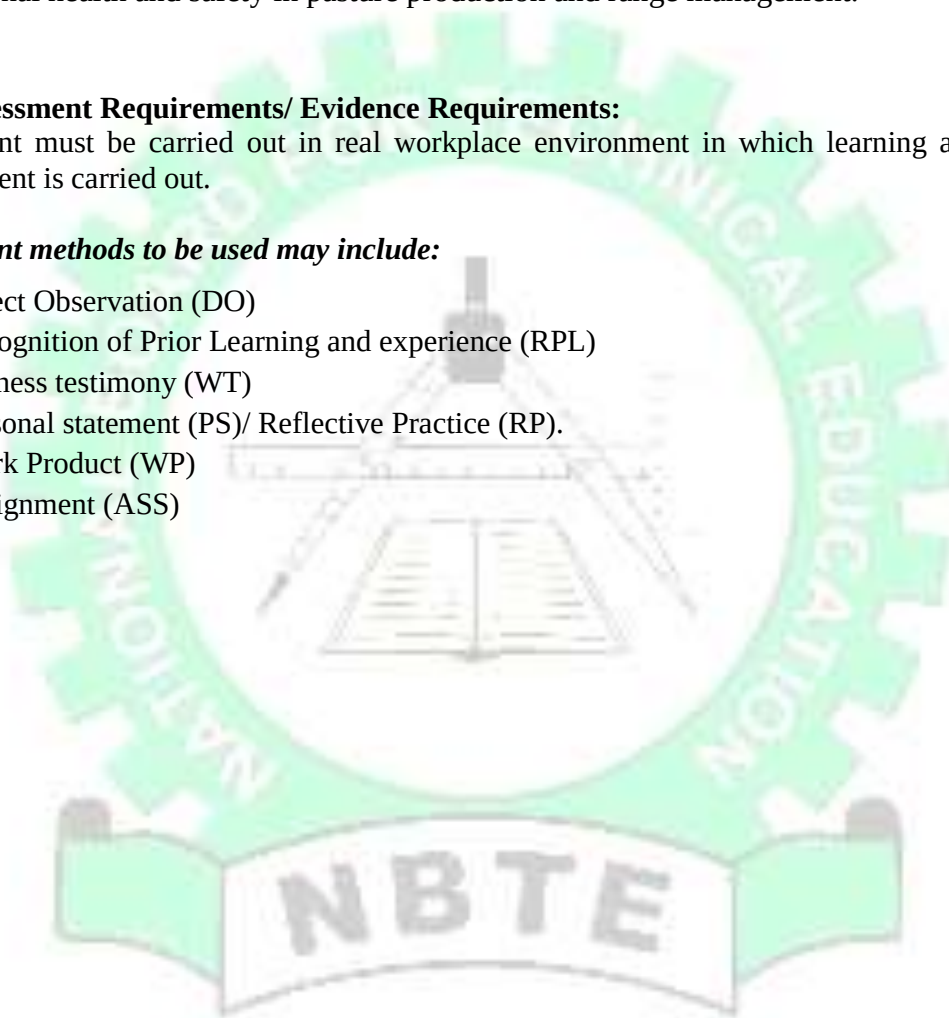
Unit Purpose: This of this unit is to equip the learner with knowledge and skills required for occupational health and safety in pasture production and range management.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 001: Occupational Health and Safety in Pasture Production and Range Management

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type		Evidence Ref. Page No.
LO 1: Explain the regulations and safety requirements in pasture production and range management	1.1	Explain the general rules and regulations governing occupational health and safety in pasture production and range management			
	1.2	List personal protective equipment (PPE) in pasture production and range management			
	1.3	State the importance of PPE			
	1.4	State how to use the PPE			
	1.5	Explain how to care and maintain the PPE			
LO 2: Explain the hazards and Risks in Pasture and rangeProduction	2.1	List the hazards in pasture production and range management			
	2.2	List the hazards associated with the use of farm machinery and implements in pasture production and range management			
	2.3	Explain fire hazards in pasture production and range management in pasture production and range management			
	2.4	Discuss risks associated with use of Agro-chemicals in pasture production and range management			
LO 3: Identify protection measures against hazards in pasture production	3.1	Discuss precautionary and first aid measures Against - Fire - Chemical injury - Predators - Injury from farm machinery and implements			

UNIT 002: COMMUNICATION SYSTEM IN A PASTURE AND RANGE ENVIRONMENT

Unit reference number: AGR/PRM/002/L2

NSQ level: 2

Credit value: 1

Guided learning hours: 10 hours

Practice Time: 30 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required in communication that is effective and timely in a way that contributes to the team's effectiveness.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 002: Communication System in a Pasture and Range Environment

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Communicate effectively in pasture and range environment	1.1	Attend daily routine meetings.								
	1.2	Identify safety signs, posters and labels in a range environment.								
	1.3	Use symbols and signs appropriately								
	1.4	Carry out instruction on the daily safety drill								
LO 2: Develop the ability to identify the source of information in a Pasture and Range Environment	2.1	Identify the direct sources of information								
	2.2	Identify direct supervisors in the Workplace								
	2.3	Identify tasks to perform in order to Carry out instruction								
	2.4	Identify channels of communication								
	2.5	Address findings in accordance to procedure in work environment								
LO 3: Demonstrate the various uses of means of communication in pasture and range environment	3.1	Recognise the various communication system in the work environment								
	3.2	Comply instructions from the supervisors								
	3.3	Pass information effectively to the right personnel								
	3.4	Use signs symbols and codes to relay information effectively.								
	3.5	Comply with instructions in line with ethics of the work environment								

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:

UNIT 003: TEAMWORK

Unit reference number: AGR/PRM/003/L2

NSQ Level: 2

Credit value: 1

Guided learning hours: 10 hours

Practice Time: 30 hours

Unit Purpose: The purpose of this unit is to equip learners with the knowledge and skills to contribute effectively to a team's efficiency under minimal supervision, promoting individual accountability and seamless collaboration in pasture operations.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 003: Teamwork

LEARNING OUTCOME (LO) <i>The learner will:</i>		PERFORMANCE CRITERIA <i>The learner can:</i>	Evidence Type	Evidence Ref. <i>Page No.</i>
LO 1: Explain team dynamics and collective responsibility	1.1	Explain how individual performance impacts the overall success of the pasture		
	1.2	Identify methods for establishing positive trust and cooperation within a team.		
	1.3	Describe common barriers to effective teamwork and how to avoid them.		
LO 2: <i>Contribute to team productivity under minimal supervision</i>	2.1	Coordinate individual tasks with the schedules of other team members.		
	2.2	Share tools, equipment, and information safely and equitably with colleagues.		
	2.3	Provide active support to team members to resolve routine operational bottlenecks.		
	2.4	Participate constructively in shift handovers and daily team operational reviews		
LO 3: <i>Respond appropriately to workplace conflicts</i>	3.1	Identify signs of friction or disagreement among team members.		
	3.2	Address minor misunderstandings directly using open and professional communication.		
	3.3	Escalate unresolved conflicts through proper channels according to farm procedures.		
Learner's Signature:		Date:		

<i>Assessor's Signature:</i>	<i>Date:</i>
<i>IQA Signature (if sampled):</i>	<i>Date:</i>
<i>EQA Signature (if sampled):</i>	<i>Date:</i>



UNIT 004: SITE SELECTION

Unit reference number: AGR/PRM/004/L2

NSQ level: 2

Credit value: 1

Guided learning hours: 10 hours

Practice Time: 30 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to select the most appropriate site for pasture production and range management.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 004: Site Selection

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Discuss the topography of the site	1.1	Discuss the following land features as it relates to pasture production and range management: - Rocky land - Hilly land - Water logged - Flat land - Undulating land								
	1.2	Discuss why a well-drained flat land is suitable for pasture production and range management								
	1.3	State the characteristics of a suitable site for Pasture Cultivation								
LO 2: Describe the rainfall pattern of the area	2.1	Explain the rainfall distribution of the area								
	2.2	Discuss the regularity of the rainfall								
	2.3	Determine total rainfall of the area								
LO 3: Describe the type of vegetation of the site	3.1	Identify whether vegetation is grass dominant, trees, shrubs, sparse or dense								
	3.2	Identify soil types								
	3.3	Select suitable soil for pasture production and range management and range management								
LO 4: Discuss relevant sections in the Nigerian Land Use Act	4.1	Discuss the relevant sections of the Nigeria Land Use Acts								
	4.2	Explain the importance of the Act								
	4.3	State the relevance of the Act to pasture production and range management and range management								
	4.4	Discuss land ownership								

UNIT 005: LAND PREPARATION

Unit reference number: AGR/PRM/005/L2

NSQ level: 2

Credit value: 3

Guided learning hours: 30 hours

Practice Time: 90 hours

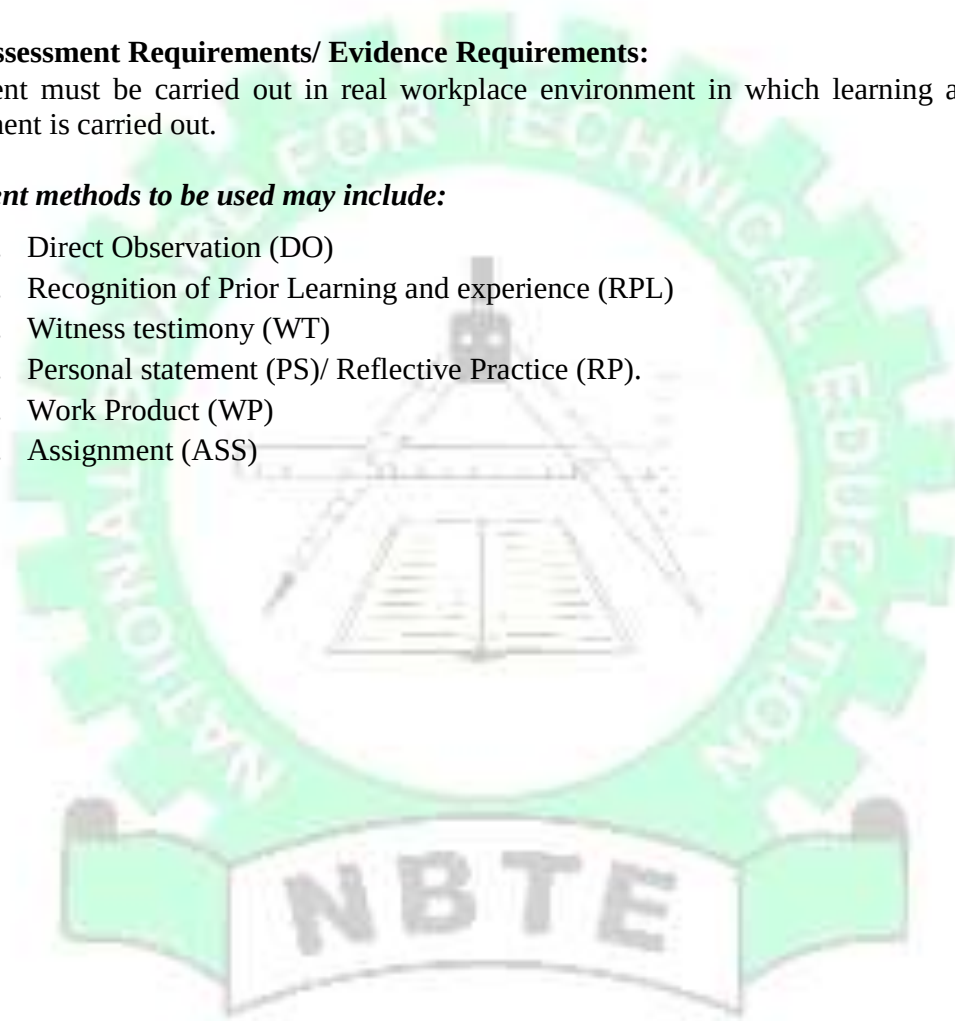
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required for land preparation in pasture production and range management.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 005: Land Preparation

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Discuss land clearing methods	1.1	Discuss the type of vegetation in the area								
	1.2	Discuss the most suitable method of land clearing								
	1.3	State the types of equipment and tools used for land clearing								
	1.4	Show how to maintain and care for each of the equipment and tools								
	1.5	State the precautionary measures in applying each of the equipment and tools								
LO 2: Explain land ploughing methods	2.1	Explain the need for ploughing in land preparation								
	2.2	State the types of ploughing methods								
	2.3	Identify the types of ploughing equipment								
	2.4	Show how to maintain and care for each of the equipment and tools								
	2.5	State the precautionary measures in applying each of the equipment and tools								
LO 3: Explain land harrowing methods	3.1	Explain the need for harrowing in land preparation								
	3.2	Identify the types of harrowing equipment								
	3.3	Explain the importance of timing in harrowing operations								
	3.4	Show how to maintain and care for each of the equipment and tools								
	3.5	State the precautionary measures in applying each of the equipment and tools								
LO 4: Select equipment and tools for ridging	4.1	Explain the need for ridging								
	4.2	State the types of ridging								

	4.3	Identify the types of ridging equipment												
	4.4	Show how to maintain and care for each of the equipment and tools												
	4.5	State the precautionary measures in applying each of the equipment and tools												
LO 5: Prepare the land for Pasture Cultivation	5.1	Carry out physical inspection of the land												
	5.2	Carry out clearing operations using tools												
	5.3	Plough the land using tools												
	5.4	Harrow the land using tools												
	5.5	Carry-out maintenance of tools and equipment												

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:

UNIT 006: PASTURE PROTECTION

Unit reference number: AGR/PRM/006/L2

NSQ level: 2

Credit value: 3

Guided learning hours: 30 hours

Practice Time: 90 hours

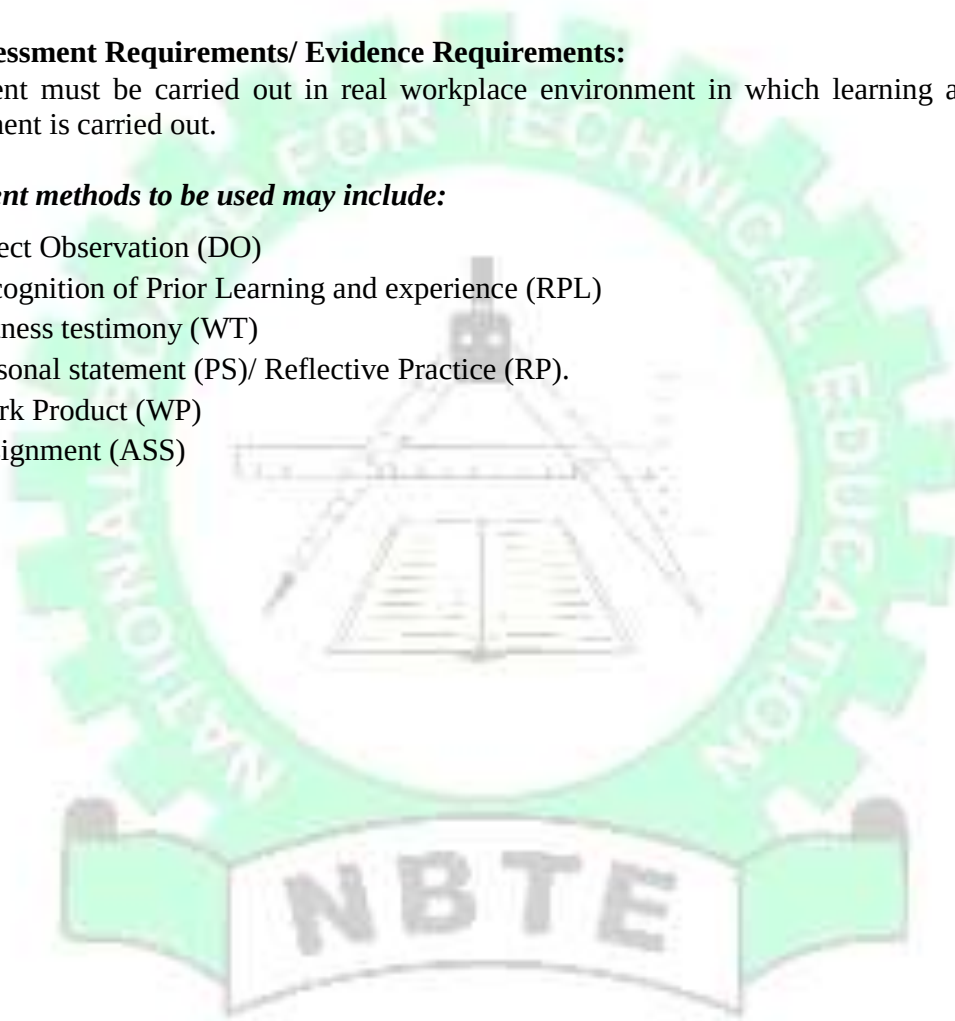
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to protect an established pasture.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 006: Pasture Protection

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Explain the fencing methods for Pasture Protection	1.1	Explain the objective of fencing in Pasture Protection								
	1.2	Explain the spacing requirements for fencing operation								
	1.3	Describe the characteristics of materials used in fencing for Pasture Protection								
LO 2: Explain fire tracing in Pasture Protection	2.1	Explain fire tracing as a means of Pasture Protection								
	2.2	Explain the steps involved in fire tracing operation								
	2.3	Explain fire tracing as a means of Pasture Protection								
LO 3: Explain the Agro-chemical treatment for Pasture Protection	3.1	Explain the importance of Agro-chemical treatment in pasture protection								
	3.2	Explain the methods of chemical treatment								
	3.3	List the precautionary measures in applying chemical treatment								
LO 4: Carry out a simple fencing exercise	4.1	Identify the suitable fencing type								
	4.2	Select the materials to be used for the fencing type								
	4.3	Identify the precautionary measures applied								
	4.4	Carry out the fencing								
LO 5: Carry out fire tracing exercise	5.1	Choose the fire tracing method								
	5.2	Carry out a simple fire tracing exercise								
	5.3	State the precautionary measures applied								
LO 6: Carry out agro-chemical treatment exercise	6.1	Select the type of chemical treatment required								
	6.2	Select the chemical treatment to be used								

UNIT 007: PASTURE SEEDS PRODUCTION

Unit reference number: AGR/PRM/007/L2

NSQ level: 2

Credit value: 3

Guided learning hours: 30 hours

Practice Time: 90 hours

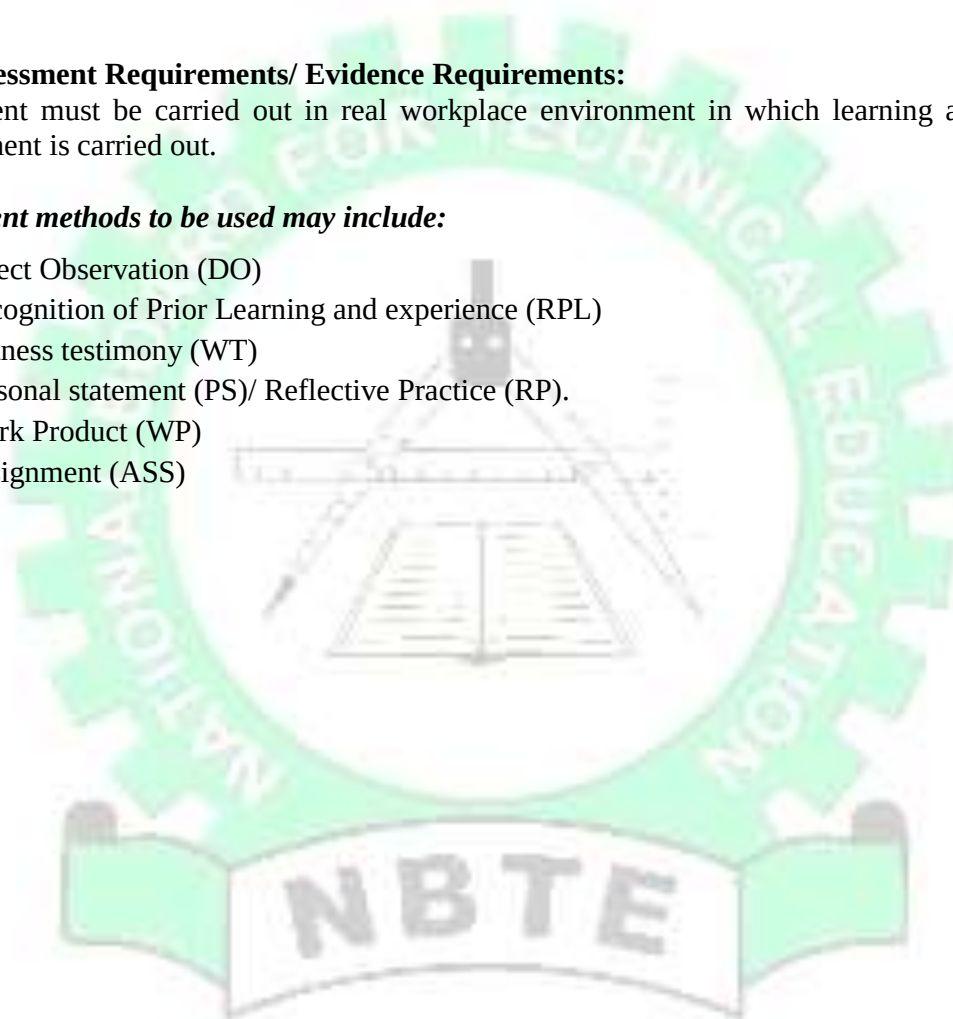
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to obtain and prepare seeds for pasture cultivation.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 007: Pasture Seeds Production

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type						Evidence Ref. Page No.				
LO 1: Identify Species and Nature of Pasture Seeds	1.1	Recognise the types of pasture seeds											
	1.2	List the varieties of pasture seeds											
	1.3	Explain the importance of purity of seeds in pasture production and range management											
	1.4	List the characteristics of different types of pasture seeds											
LO 2: Explain germination characteristics of pasture seeds	2.1	Explain whether the pasture seeds are annual or perennial species											
	2.2	Explain maturity time for pasture seeds											
	2.3	State the methods of planting of pasture seeds											
	2.4	Explain the spacing requirements for seeds											
	2.5	Explain the importance timing in planting pasture seeds											
LO 3: Prepare seeds for cultivation	3.1	Select quality and pure pasture seeds											
	3.2	Break seeds dormancy using appropriate techniques											
	3.3	Identify the suitable planting method											
	3.4	Identify the spacing requirements											
	3.5	Determine appropriate time to plant											
LO 4: Carry out pasture seeds production	4.1	Source for quality seeds											
	4.2	Prepare the seed bed											
	4.3	Choose the appropriate planting methods											
	4.4	Determine the plant spacing											

UNIT 008: SOWING OF PASTURE SEEDS

Unit reference number: AGR/PRM/008/L2

NSQ level: 2

Credit value: 3

Guided learning hours: 30 hours

Practice Time: 90 hours

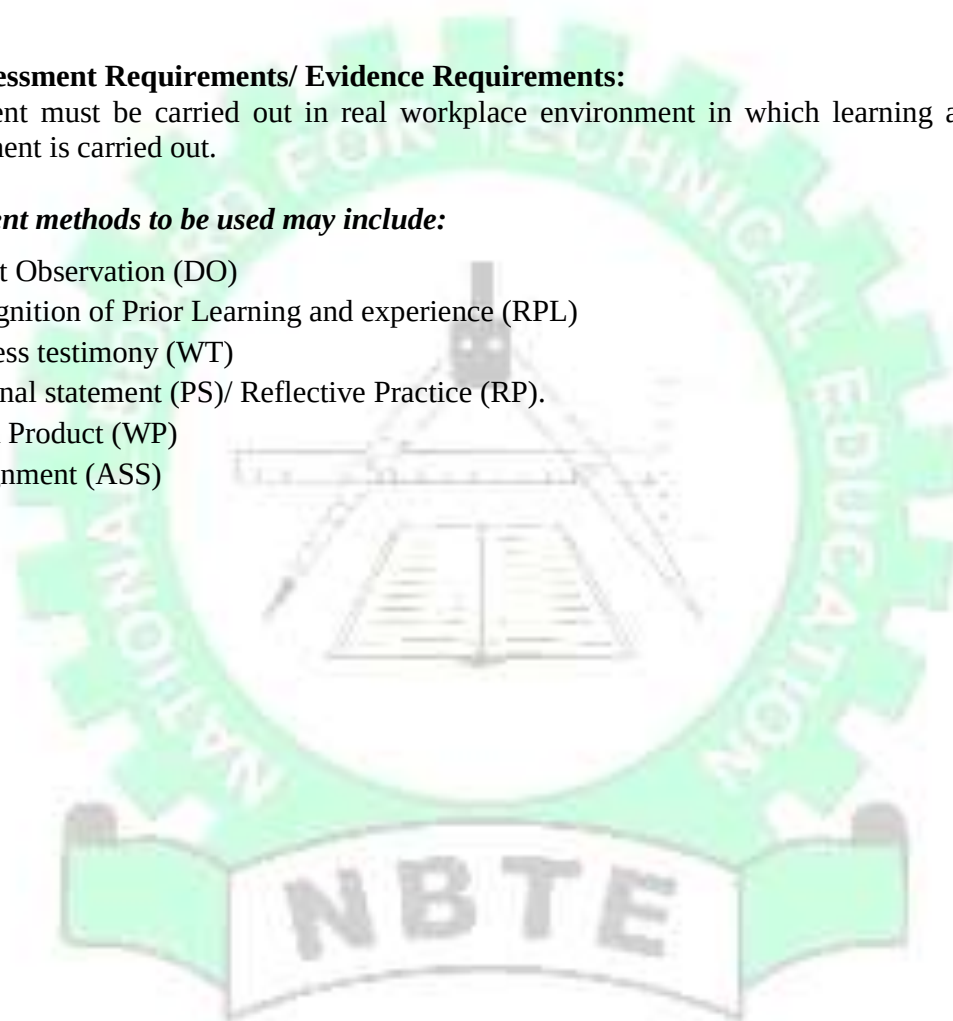
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required for sowing of pasture seeds.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 008: Sowing of Pasture Seeds

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
LO 1: Identify the pasture seeds to be sown	1.1	Explain the varieties of pasture seeds available			
	1.2	Explain the importance of quality and purity in pasture seeds			
	1.3	Discuss the various sources of obtaining good quality seeds			
LO 2: Explain the growth characteristics of the pasture seed plants and vegetative materials	2.1	Explain the maturity time of pasture seeds			
	2.2	Explain the growth habit of pasture seed plants			
	2.3	Explain the planting distance (spacing) of pasture seed plants			
	2.4	Explain disease resistance of pasture seeds			
	2.5	State the fertilizer requirements of pasture seed plants			
	2.6	Explain seed hardiness in pasture seeds			
LO 3: Carry out sowing of pasture seeds to develop the pasture	3.1	Prepare the seed bed			
	3.2	Choose the appropriate planting method			
	3.3	Determine the plant spacing			
	3.4	Sow the pasture seeds			
	3.5	Carry out fertilizer application			
	3.6	Carry out weeding exercise			
	3.7	Determine time for harvest			
	3.8	Harvest the pasture			

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:

UNIT 009: BASIC ANIMAL HUSBANDRY PRACTICES

Unit reference number: AGR/PRM/009/L2

NSQ Level: 2

Credit Value: 3

Guided Learning Hours: 30 hours

Practice Time: 90 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills to implement animal husbandry practices in pasture production and range management systems.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 009: Basic Animal Husbandry Practices

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: Manage livestock under feeding systems	1.1	Identify pasture species preferred by livestock.		
	1.2	Assess forage availability.		
	1.3	Provide feed, water and supplementary feeding when required.		
	1.4	Monitor livestock feeding behaviour.		
LO 2: Implement animal welfare Management practices and biosecurity.	2.1	State signs of healthy animals.		
	2.2	Identify signs of sick animals		
	2.3	Recognize ecto-parasite and endo-parasite infestation.		
	2.4	Restrain animals for medication purposes		
	2.5	Keep livestock records.		
LO 3: Apply livestock handling and grazing Management techniques.	3.1	Move livestock safely between paddocks.		
	3.2	Apply rotational grazing schedules.		
	3.3	Monitor grazing pressure.		
	3.4	Prevent overgrazing.		
	3.5	Maintain grazing infrastructure.		
LO 4: Support livestock reproduction and breeding activities.	4.1	Identify reproducing animals (males and females).		
	4.2	Recognize signs of heat.		
	4.3	Assist during breeding activities.		
	4.4	Monitor pregnant animals.		
	4.5	Maintain reproduction records.		
LO 5: Maintain animal welfare standards.	5.1	Assess animal welfare conditions.		
	5.2	Identify causes of stress.		
	5.3	Implement welfare improvement measures.		
	5.4	Apply ethical livestock handling practices.		

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:



UNIT 010: GRAZING MANAGEMENT

Unit Reference Number: AGR/PRM/010/L2

NSQ Level: 2

Credit Value: 3

Guided Learning Hours: 30 hours

Practice Time: 90 hours

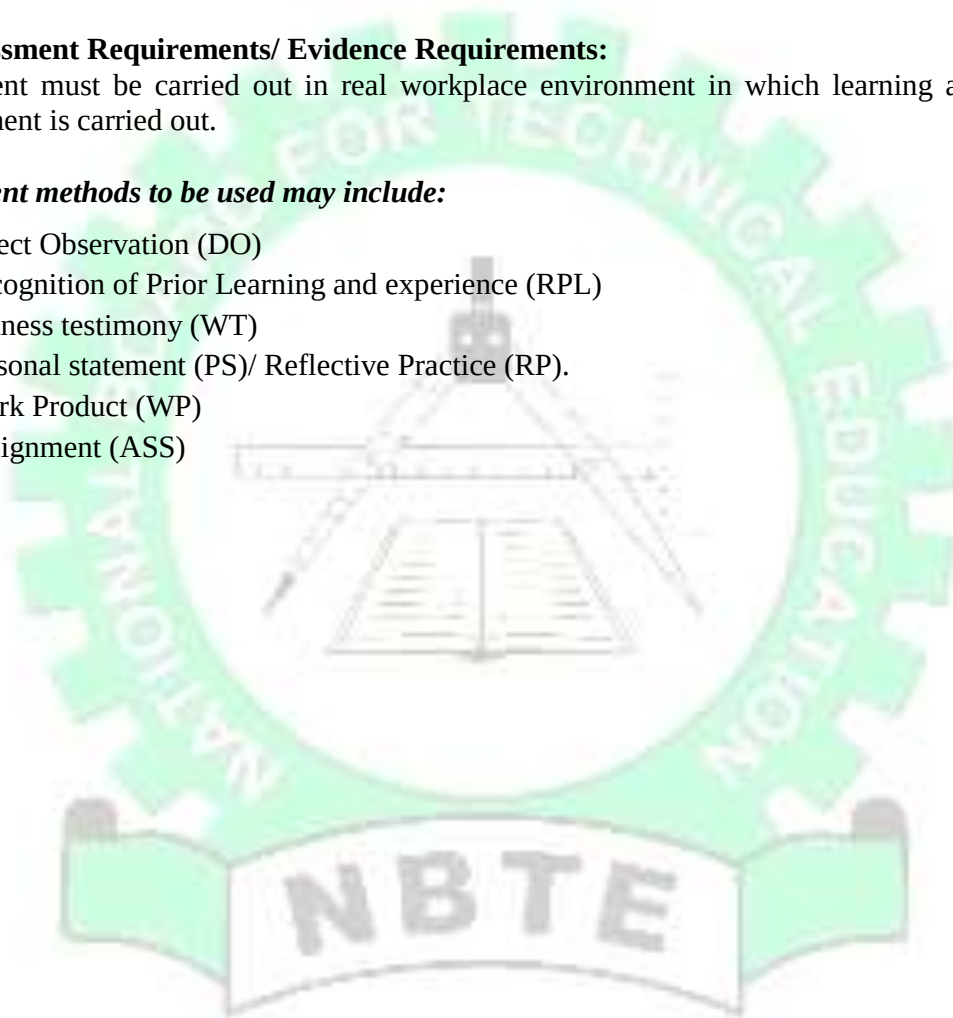
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to implement basic grazing management practices in pasture production and range management systems.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 010: Grazing Management

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type	Evidence Ref. Page No.
LO 1: Explain grazing systems	1.1	List grazing Management principles.		
	1.2	Explain different grazing systems.		
	1.3	Explain advantages and disadvantages of grazing systems.		
	1.4	Select appropriate grazing systems.		
LO 2: Plan grazing operations	2.1	Determine grazing periods.		
	2.2	Determine pasture resting periods.		
	2.3	Estimate grazing requirements.		
	2.4	Develop simple grazing schedules.		
LO 3: Manage paddock grazing systems	3.1	Identify paddock boundaries.		
	3.2	Estimate paddock carrying capacity.		
	3.3	Allocate livestock to paddocks.		
	3.4	Monitor paddock utilization.		

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:

UNIT 011: CLIMATE SMART PASTURE PRODUCTION AND RANGE MANAGEMENT

Unit Reference Number: AGR/PRM/011/L2

NSQ Level: 2

Credit Value: 3

Guided Learning Hours: 30 hours

Practice Time: 90 hours

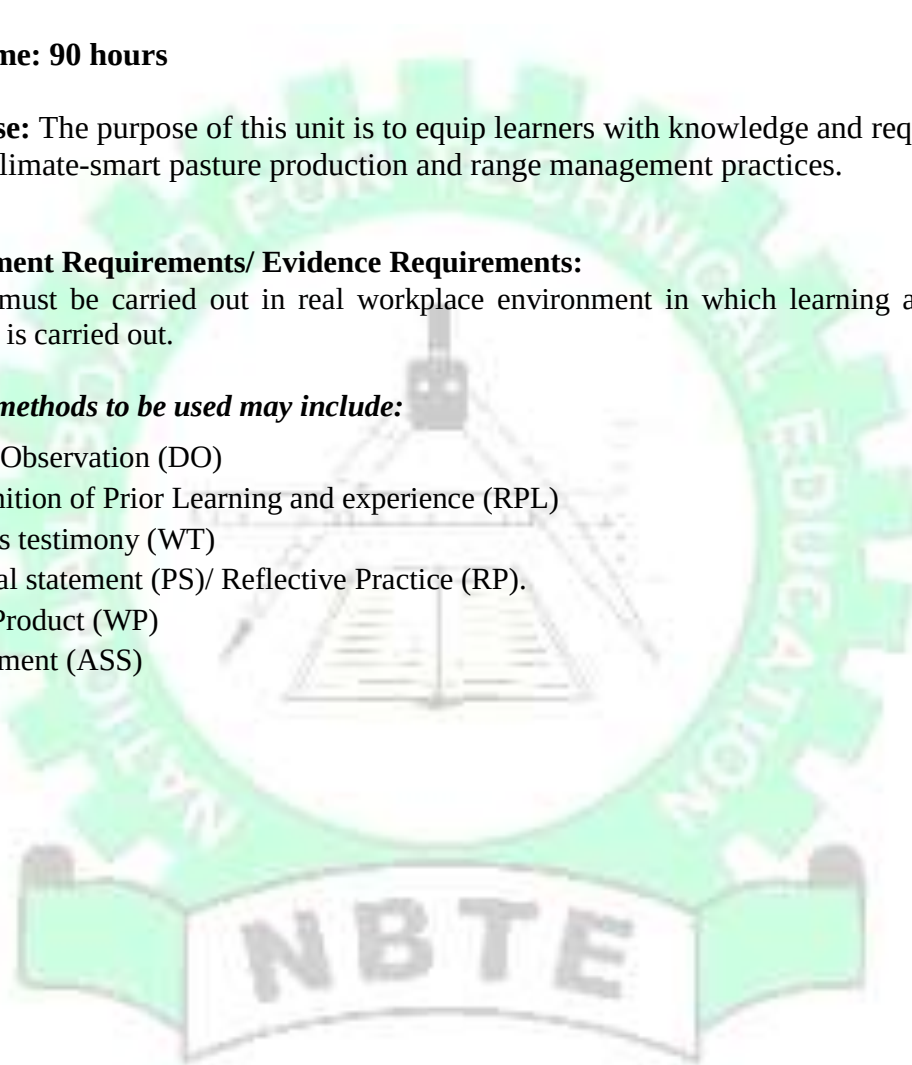
Unit Purpose: The purpose of this unit is to equip learners with knowledge and required to implement climate-smart pasture production and range management practices.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 011: Climate Smart Pasture production and range management

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Explain climate change effects on pasture production and range management	1.1	Explain climate change.								
	1.2	Identify climate-related risks.								
	1.3	Explain effects of drought on pasture production and range management.								
	1.4	Explain effects of flooding on pasture production and range management.								
LO 2: Apply climate adaptation measures	2.1	Select drought-tolerant forage species.								
	2.2	Implement water conservation measures.								
	2.3	Implement soil moisture conservation practices.								
	2.4	Apply climate adaptation strategies.								
LO 3: Monitor climate risks affecting pasture production and range management	3.1	Identify climate risks affecting pasture.								
	3.2	Monitor rainfall and drought conditions.								
	3.3	Identify early warning indicators.								
	3.4	Recommend adaptation measures								

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:

UNIT 012: FORAGE YIELD ASSESSMENT

Unit Reference Number: AGR/PRM/012/L2

NSQ Level: 2

Credit Value: 2

Guided Learning Hours: 20 hours

Practice Time: 60 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills to assess forage yield in pasture production and range management systems.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 012: Forage Yield Assessment

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
LO 1: Explain forage assessment methods	1.1	Identify methods of forage assessment.			
	1.2	Explain the importance of forage assessment.			
	1.3	Estimate forage biomass after harvest.			
LO 2: Collect forage yield data	2.1	Select representative sampling sites.			
	2.2	Use appropriate sampling techniques.			
	2.3	Record field measurements accurately.			
	2.4	Maintain forage assessment records.			
LO 3: Estimate pasture productivity	3.1	Calculate forage yield.			
	3.2	Compare forage yield between sampling areas.			
	3.3	Interpret forage yield results.			
	3.4	Recommend grazing decisions based on assessment results.			

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:

UNIT 013: PASTURE REHABILITATION, RESTORATION AND WATER DEVELOPMENT

Unit Reference Number: AGR/PRM/013/L2

NSQ Level: 2

Credit Value: 1

Guided Learning Hours: 10 hours

Practice Time: 30 hours

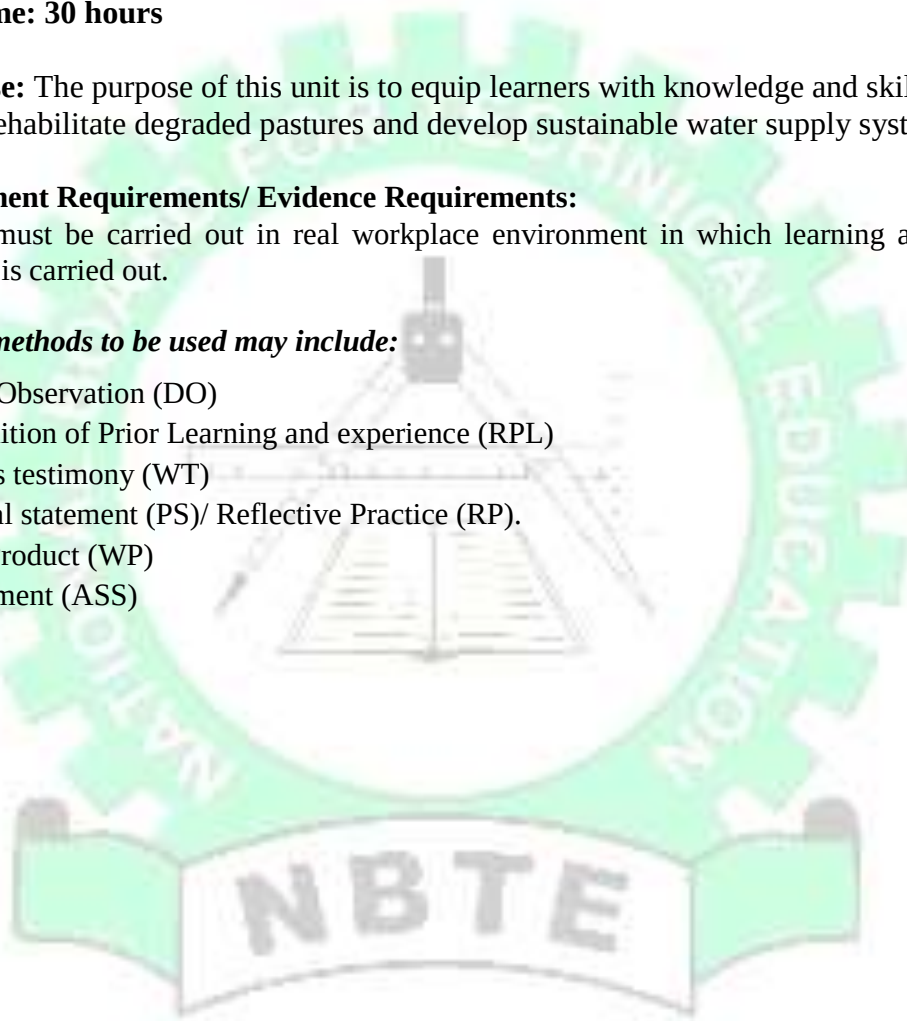
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to rehabilitate degraded pastures and develop sustainable water supply systems.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 013: Pasture Rehabilitation, Restoration and Water Development

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type						Evidence Ref. Page No.				
LO 1: Identify degraded pasture land	1.1	Identify signs of pasture degradation.											
	1.2	List the causes of degradation.											
	1.3	Select appropriate rehabilitation methods.											
	1.4	Carry out reseeding operations (Introduce suitable pasture plants.)											
	1.5	Apply erosion control measures.											
	1.6	Monitor pasture recovery.											
LO 2: Explain water requirements for pasture production and range management	2.1	Identify water sources.											
	2.2	Explain water requirements of pasture species.											
	2.3	Explain livestock water requirements.											
	2.4	Explain importance of water in pasture production and range management.											
LO 3: Plan water supply systems	3.1	Identify suitable water sources.											
	3.2	Determine water demand.											
	3.3	Select water supply methods.											
	3.4	Monitor water availability.											

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:

UNIT 014: CONFLICT-SENSITIVE GRAZING MANAGEMENT

Unit Reference Number: AGR/PRM/014/L2

NSQ Level: 2

Credit Value: 3

Guided Learning Hours: 30 hours

Practice Time: 90 hours

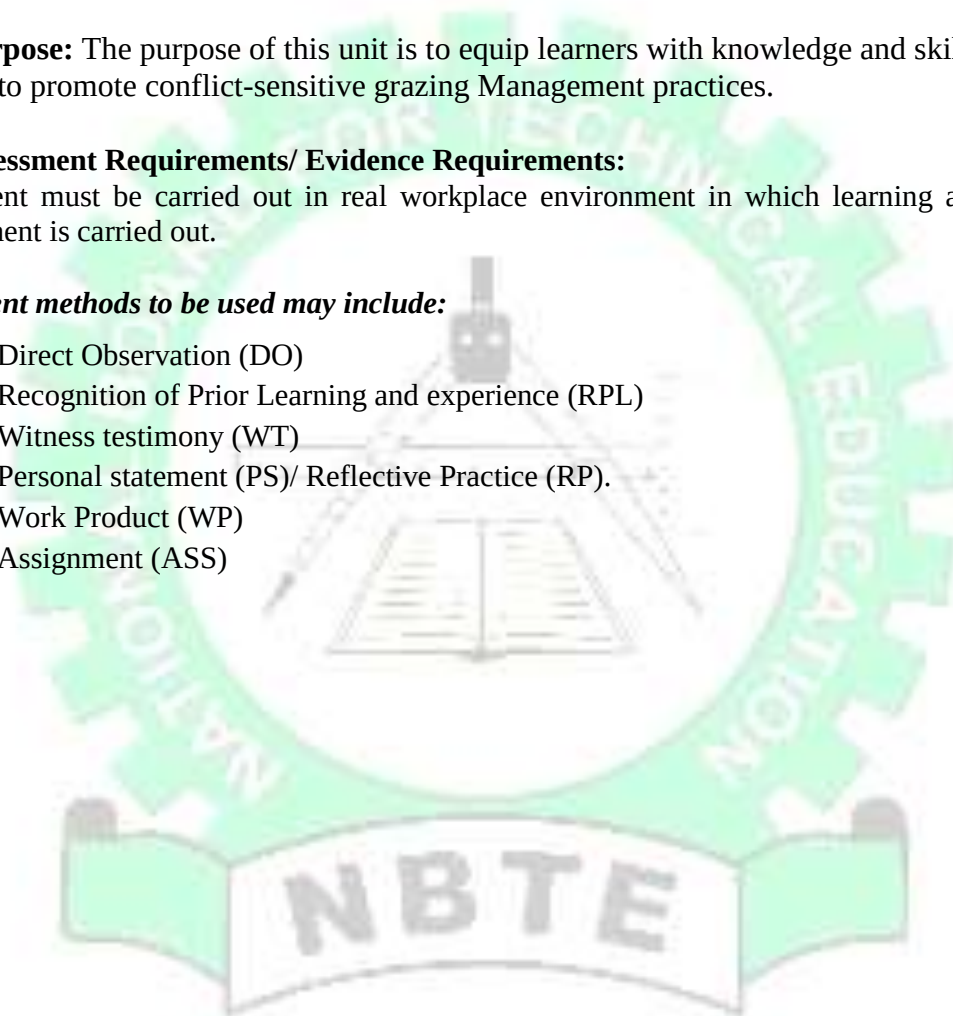
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to promote conflict-sensitive grazing Management practices.

Unit Assessment Requirements/ Evidence Requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 014: Conflict-Sensitive Grazing Management

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type						Evidence Ref.	Page No.
LO 1: Explain conflicts associated with grazing activities	1.1	Identify causes of grazing conflicts.								
	1.2	Explain effects of grazing conflicts.								
	1.3	Identify stakeholders in grazing systems.								
	1.4	Explain conflict prevention measures								
LO 2: Apply conflict-sensitive grazing practices	2.1	Promote stakeholder engagement.								
	2.2	Apply agreed grazing schedules.								
	2.3	Respect grazing boundaries.								
	2.4	Report conflict situations appropriately.								
LO 3: Facilitate stakeholder engagement in grazing Management	3.1	Identify relevant stakeholders.								
	3.2	Promote dialogue among stakeholders.								
	3.3	Encourage compliance with grazing agreements.								
	3.4	Report unresolved conflicts through appropriate channels.								

Learner's Signature:

Date:

Assessor's Signature:

Date:

IQA Signature (if sampled):

Date:

EQA Signature (if sampled):

Date:

**NATIONAL SKILLS QUALIFICATIONS/NATIONAL OCCUPATIONAL
STANDARDS/ (NSQ/NOS)**

IN

PASTURE AND RANGE MANAGEMENT

LEVEL 3

JUNE, 2026



GENERAL INFORMATION OVERVIEW

This qualification is designed for individuals who are interested in pursuing a career in **Pasture production and Range Management** for the award of National Skills Qualifications (NSQ)/National Occupational Standards (NOS). It is aimed at producing competencies necessary to support in **Pasture and Range Management** at **NSQ Level 3**.

This qualification is subject to review as and when the need arises.

QUALIFICATION PURPOSE

The qualification is designed to produce competent Pasture and Range Management technician with knowledge, skills, and attitude required to perform routine Pasture and Range Management activities under supervision using basic precision agriculture principles and tools.

QUALIFICATION REQUIREMENTS

All Candidates must be:

- At least eighteen (18) years of age
- Medically fit
- Mentally fit (Mental alertness)
- A Nigerian citizen
- Other nationals should present international passport, residence permit or Parent work permit.
- Vetted
- Interest in agricultural production and related support operations;
- Ability to carry out practical tasks independently and to guide the work of others.

QUALIFICATION OBJECTIVES

At the end of this qualification, the learner should be able to:

1. Apply safe and healthy work practices in pasture production and range management environments.
2. Communicate effectively with supervisors, colleagues, customers, and other stakeholders in pasture production and range management activities.
3. Work effectively as a team member to achieve pasture production objectives.
4. Select the most appropriate site for pasture production and range management.
5. Apply appropriate sustainable land preparation practices in pasture production and range management.
6. Perform routine Pasture Protection practices.
7. Carry out sowing and vegetative propagation for various pasture seeds and vegetative materials respectively.
8. Perform fertilizer application to support the growth and productivity of the pasture plants.
9. Manage pastures effectively to maximize productivity.
10. Harvest seeds and established pastures to obtain planting materials and animal feed respectively.

11. Conserve pastures effectively.
12. Carryout marketing of pasture products.
13. Apply basic animal husbandry practices to support the growth and productivity of the pasture and range enterprise.
14. Perform grazing management activities.
15. Assess and monitor range performance.
16. Identify basic range ecology and health indicators.



NATIONAL SKILLS QUALIFICATION (NSQ) TABLE

Unit No	Reference Number	NSQ Title	Credit Value	Guided Learning Hours	Practice Time	Remarks
Unit 001	AGR/PRM/001/L3	Occupational health and safety in Pasture production and range management	2	20	80	Mandatory
Unit 002	AGR/PRM/002/L3	Communication	2	20	80	Mandatory
Unit 003	AGR/PRM/003/L3	Team Work	2	20	80	Mandatory
Unit 004	AGR/PRM/004/L3	Site Selection	2	20	100	Mandatory
Unit 005	AGR/PRM/005/L3	Land Preparation	4	40	200	Mandatory
Unit 006	AGR/PRM/006/L3	Pasture Protection	3	30	150	Mandatory
Unit 007	AGR/PRM/007/L3	Sowing and Vegetative Propagation	3	30	200	Mandatory
Unit 008	AGR/PRM/008/L3	Fertilizer Application	3	30	150	Mandatory
Unit 009	AGR/PRM/009/L3	Pasture Management	3	30	200	Mandatory
Unit 010	AGR/PRM/010/L3	Seed and Pasture Harvesting	5	50	250	Mandatory
Unit 011	AGR/PRM/011/L3	Pasture Conservation	3	30	150	Mandatory
Unit 012	AGR/PRM/012/L3	Pasture Products Marketing	3	30	100	Mandatory
Unit 013	AGR/PRM/013/L3	Basic Animal Husbandry Practices	3	30	100	Mandatory
SUB-TOTAL			38	380	1840	
Unit 014	AGR/PRM/014/L3	Grazing Management	2	20	60	Optional
Unit 015	AGR/PRM/015/L3	Range Monitoring and Assessment	2	20	60	Optional
Unit 016	AGR/PRM/016/L3	Range Ecology and Health	2	20	60	Optional
SUB-TOTAL			6	60	180	
GRAND-TOTAL			44	440	2020	

QUALIFICATION STRUCTURE

This qualification comprises a total of thirteen (13) mandatory units with 38 Credit Value and 380 Guided Learning Hours across the full unit set and three (3) optional units with six (6) credit Value and 60 Guided Learning Hours. Guided Learning Hours are the time a learner spends in the classroom, workshop and laboratory of the Skills Training Centre (STC), being taught, instructed, supervised or assessed by a qualified trainer, facilitator or assessor.

In addition to the GLH, the qualification requires at least twice or thrice the GLH as practice time. Practice time is the time a learner is expected to spend applying the skills of each unit in a real workplace environment, carrying out the same tasks repeatedly until performance becomes consistent, accurate and habitual to the standard the qualification demands. It is undertaken under the guidance of a workplace supervisor, recorded in the learner's logbook and duly endorsed. Practice time is the principal setting where core assessment is conducted. It is through repeated performance in the workplace that a learner's achievement of the Learning Outcomes and Performance Criteria is judged and evidenced. Practice time is an additional requirement to GLH and does not replace them. To achieve this qualification, the learner must complete all mandatory units, undertake the prescribed practice time, and accumulate the minimum credit value approved by NBTE. Credit is awarded only when a learner has been assessed as competent against all Learning Outcomes and Performance Criteria of a unit

GENERAL GUIDE

Unit title	Provides a clear explanation of the content of the unit.
Unit number	The unique number assigned to the unit.
Unit reference	The unique reference number given to each unit at qualification approval by NBTE
Unit level	Denotes the level of the unit within the National Skill Qualification framework NSQF.
Unit credit value	The value that has been given to the unit based on the expected learning time for an average learner. 1 credit = 10 learning hours
Unit aim	Provides a brief outline of the unit content.
Learning outcome	A statement of what a learner will know, understand or be able to do, as a result of a process of learning.
Assessment criteria	A description of the requirements a learner must achieve to demonstrate that a learning outcome has been met.
Unit assessment guidance	Any additional guidance provided to support the assessment of the unit.

Unit guided learning hours	The average number of hours of supervised or directed study time or assessment required to achieve a qualification or unit of a qualification.



UNIT 001: OCCUPATIONAL HEALTH AND SAFETY IN PASTURE PRODUCTION AND RANGE MANAGEMENT

Unit reference number: AGR/PRM/001/L3

NSQ level: 3

Credit value: 2

Guided learning hours: 20 hours

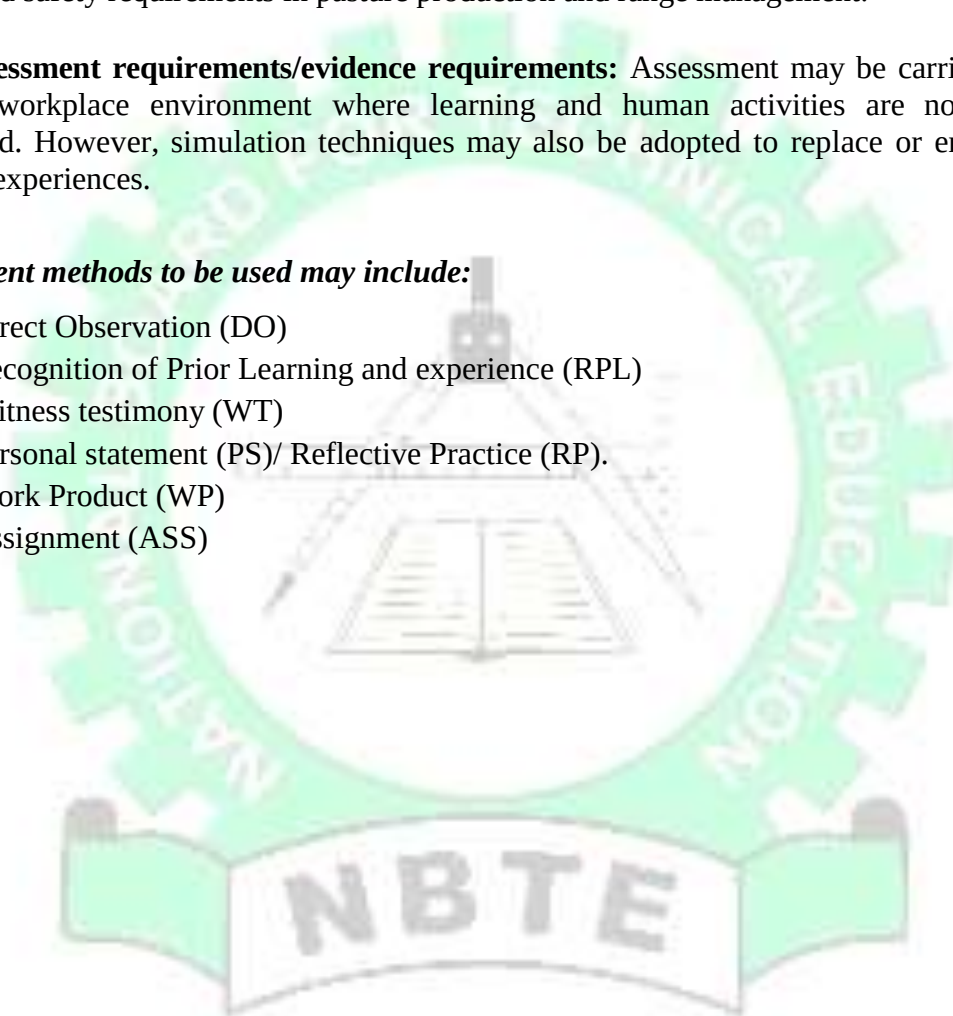
Practice Time: 80 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills in health and safety requirements in pasture production and range management.

Unit assessment requirements/evidence requirements: Assessment may be carried out in real workplace environment where learning and human activities are normally conducted. However, simulation techniques may also be adopted to replace or enhance real-life experiences.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 001: Occupational health and safety in Pasture production and range management
3

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type						Evidence Ref. Page No.
LO 1: Explain the regulations and safety requirements in Pasture production and range management	1.1	Explain the general rules and regulations governing health and safety aspect of pasture production and range management							
	1.2	List personal protective equipment (PPE)							
	1.3	State the importance of PPE							
	1.4	State how to use the PPE							
	1.5	Explain how to care and maintain the PPE							
	1.6	Explain how to service PPE							
	1.7	Explain how to guard against allergic reaction							
LO 2: Explain the hazards and risk in Pasture Production	2.1	Outline the hazards associated with pasture production and range management							
	2.2	List the hazards associated with the use farm machinery and implements							
	2.3	Explain fire hazards in pasture production and range management							
	2.4	Discuss the risks associated with use of agro-chemicals in pasture production and range management							
	2.5	Explain waste disposal procedure in pasture production and range management							
LO 3: Demonstrate protection and first aid measures in	3.1	Describe precautionary measures against - Fire - Chemical injury							

		against intrusion by animal and man							
	3.5	Carry-out first aid.							
Demonstrate of safety ent	4.1	Wear the PPE							
	4.2	Select the protective equipment for use against hazards such as - Fire - Chemical injury - Machinery and implements - Predators							
	4.3	State the precautionary measures against risk and hazards in pasture production and range management							
	4.4	Identify safety signs							
	4.5	Observe hygienic waste disposal procedure							
	4.6	Carry-out first aid drill							
Signature: _____ Date: _____									

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:

UNIT 002: COMMUNICATION

Unit reference number: AGR/PRM/002/L3

NSQ level: 3

Credit value: 2

Guided learning hours: 20 hours

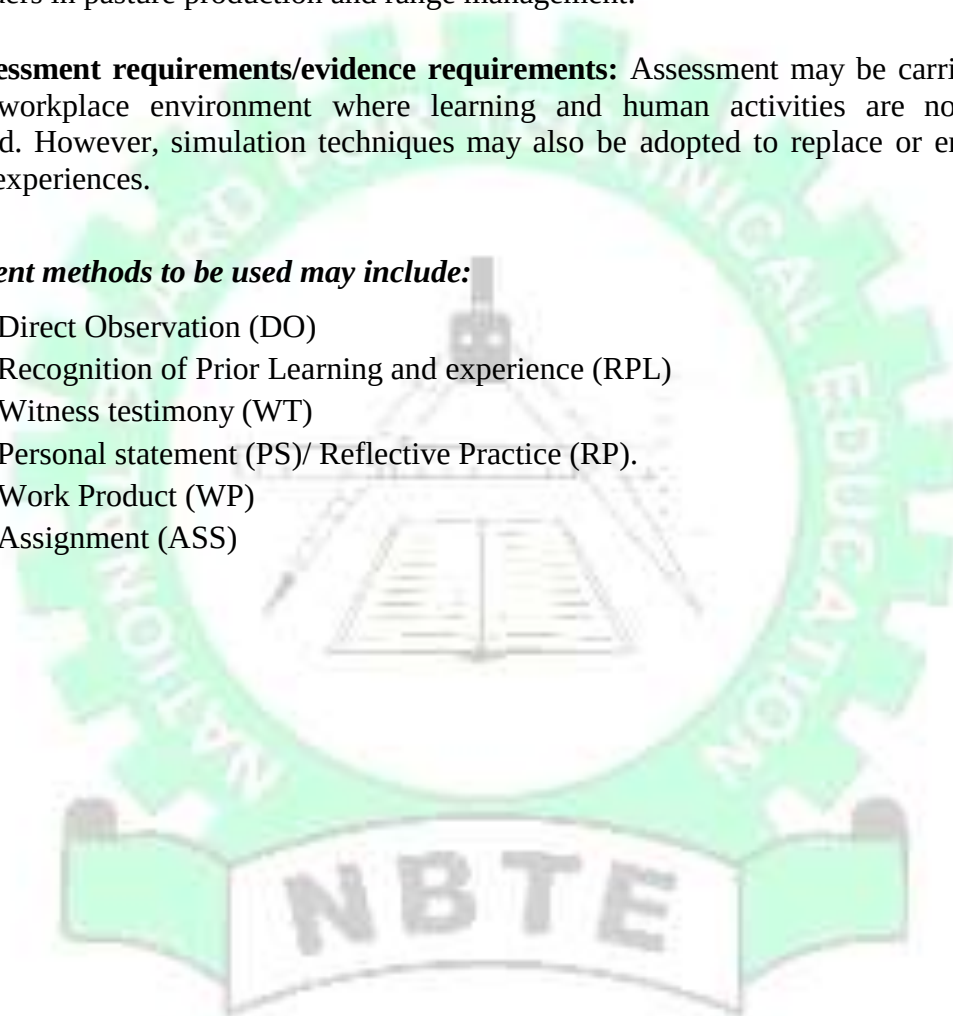
Practice Time: 80 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to communicate effectively, coordinate teams, supervise field operations and engage stakeholders in pasture production and range management.

Unit assessment requirements/evidence requirements: Assessment may be carried out in real workplace environment where learning and human activities are normally conducted. However, simulation techniques may also be adopted to replace or enhance real-life experiences.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 002: Communication

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type					Evidence Ref. Page No.
The learner will:		The learner can:						
LO 1: Coordinate communication in pasture and range operations	1.1	Communicate operational instructions clearly to field personnel.						
	1.2	Prepare routine operational reports.						
	1.3	Maintain effective communication with supervisors and team members.						
	1.4	Use appropriate communication channels during field operations.						
	1.5	Maintain confidentiality of official information.						
LO 2: Supervise teamwork in pasture production and range management	2.1	Allocate duties according to team members' responsibilities.						
	2.2	Monitor team performance during field operations.						
	2.3	Promote cooperation and mutual respect among team members.						
	2.4	Provide guidance and feedback to improve team performance.						
	2.5	Evaluate team performance against operational targets.						
LO 3: Manage stakeholder relationships and workplace conflicts	3.1	Identify key stakeholders involved in pasture production and range management.						
	3.2	Apply appropriate interpersonal skills when dealing with stakeholders.						
	3.3	Resolve workplace conflicts using established procedures.						
	3.4	Conduct meetings to discuss operational issues.						

	3.5	Prepare reports on stakeholder engagement and conflict resolution activities.											
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Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:



UNIT 003: TEAM WORK

Unit reference number: AGR/PRM/003/L3

NSQ Level: 3

Credit value: 2

Guided learning hours: 20 hours

Practice Time: 80 hours

Unit Purpose: This unit equips advanced technicians with the competencies required to foster high-performance teams, coordinate small groups, manage group dynamics, and optimize collective productivity in field operations.

Unit assessment requirements/evidence requirements: Assessment may be carried out in real workplace environment where learning and human activities are normally conducted. However, simulation techniques may also be adopted to replace or enhance real-life experiences.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)

Unit 003: Team Work

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Analyze methods for building and leading functional work teams	1.1	Analyze the characteristics of a high-performing agricultural work group.								
	1.2	Explain strategies for motivating team members and balancing varying skill sets.								
	1.3	Describe methods for monitoring team synergy against production milestones								
LO 2: Coordinate team tasks in field operations	2.1	Delegate specific sub-tasks to team members based on their competence levels								
	2.2	Facilitate resource sharing and balance workloads across different field operations.								
	2.3	Conduct team-level briefings to align members with technical safety and quality targets.								
	2.4	Mentor junior team members to improve their field execution and collaboration skills.								
LO 3: Optimize team problem-solving to manage group dynamics	3.1	Lead team sessions to brainstorm solutions for unforeseen field challenges								
	3.2	Mediate and resolve interpersonal or task-related disputes within the team.								
	3.3	Gather team feedback to propose operational workflow improvements to senior management.								
	3.4	Appraise the collective performance of the team and								

		document key areas for improvement.										
Learner's Signature:		Date:										
Assessor's Signature:		Date:										
IQA Signature (if sampled):		Date:										
EQA Signature (if sampled):		Date:										
Learner's Signature: Date: Assessors Signature: Date: IQA Signature (if sampled) Date:												
EQA Signature (if sampled) Date:												



UNIT 004: SITE SELECTION

Unit reference number: AGR/PRM/004/L3

NSQ level: 3

Credit value: 2

Guided learning hours: 20 hours

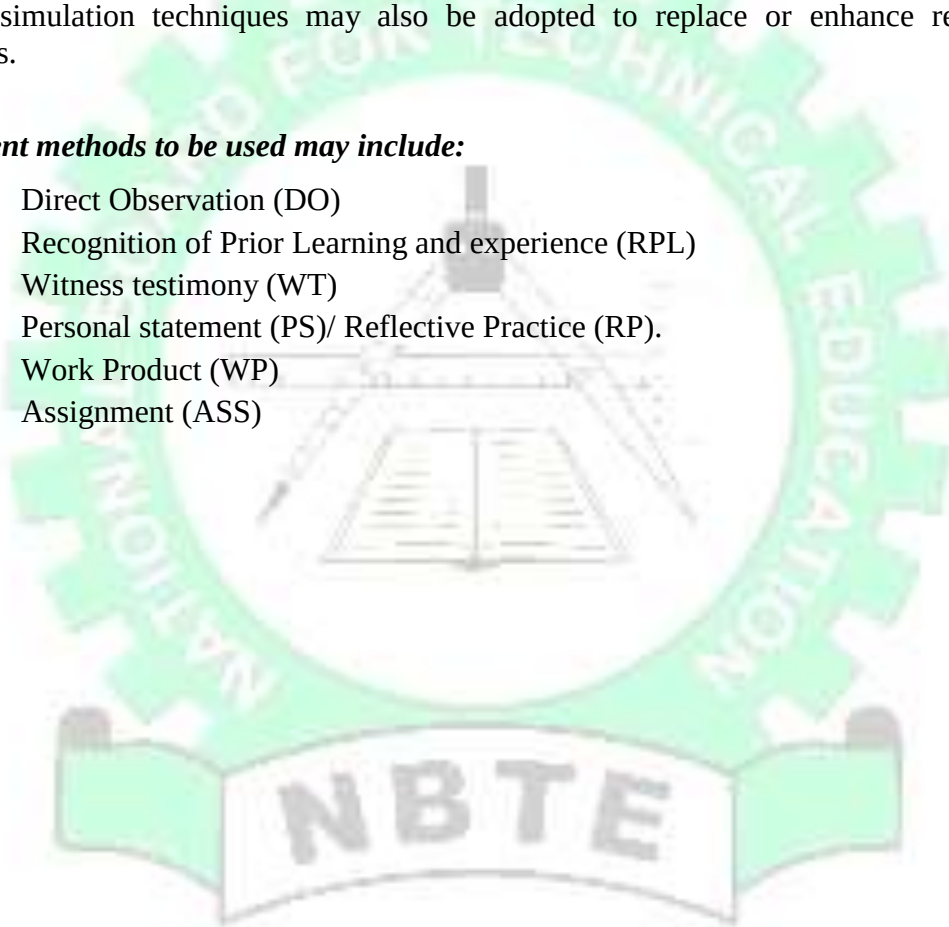
Practice Time: 100 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required in suitable site selection in pasture production and range management.

Unit assessment requirements/evidence requirements: Assessment may be carried out in real workplace environment where learning and human activities are normally conducted. However, simulation techniques may also be adopted to replace or enhance real-life experiences.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 004: Site Selection

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Describe the topography of the site	1.1	Explain the following land features as it relates to pasture production and range management: - Rocky land - Hilly land - Water logged - Flat land - Undulating land - Gently sloppy land								
	1.2	Explain why a gently sloppy land is suitable for pasture production and range management								
	1.3	State the characteristics of a suitable site for Pasture Cultivation								
LO 2: Describe the rainfall pattern of the area	2.1	Explain the rainfall distribution of the area								
	2.2	Explain the regularity of the rainfall of the area.								
	2.3	Determine total rainfall of the area								
LO 3: Describe the use of irrigation system in pasture production and range management	3.1	Explain the importance of irrigation in pasture production and range management								
	3.2	Explain the relationship between soil types and the irrigation system to adopt								
	3.3	Identify the source of water for irrigation								
	3.4	Explain types of irrigation methods								
LO 4: Explain the vegetation and soil type of the area	4.1	Determine whether vegetation is grass dominant, trees, shrubs, sparse and dense								
	4.2	Identify soil types								

UNIT 005: LAND PREPARATION

Unit reference number: AGR/PRM/005/L3

NSQ Level: 3

Credit value: 4

Guided learning hours: 40 hours

Practice Time: 200 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required in land preparation in pasture production and range management. maintenance of equipment and tools in land preparation.

Unit assessment requirements/evidence requirements: Assessment may be carried out in real workplace environment where learning and human activities are normally conducted. However, simulation techniques may also be adopted to replace or enhance real-life experiences.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)

Unit 005: Land Preparation

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Describe land clearing methods	1.1	Identify the vegetation type and soil texture in the area								
	1.2	Explain the suitability of the land clearing operation considering the rainfall and vegetation type								
	1.3	Explain maintenance of the land clearing equipment and tools								
LO 2: Explain different ploughing operation	2.1	State the importance of ploughing in pasture production and range management								
	2.2	Identify the most suitable method of ploughing considering the soil texture								
	2.3	Describe the operations of various ploughing equipment and tools								
LO 3: State harrowing operation	3.1	State the importance of harrowing in pasture production and range management								
	3.2	Identify the most suitable method of harrowing considering the soil texture								
	3.3	Describe the operations of various harrowing equipment								
LO 4: Use equipment and tools for land preparation	4.1	Carry-out the clearing operation using suitable equipment and tools								
	4.2	Carry-out the ploughing operation using suitable equipment and tools								
	4.3	Carry-out the harrowing operation using suitable equipment and tools								
	4.4	Service each of the equipment and tools								

[illegible]

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:

UNIT 006: PASTURE PROTECTION

Unit reference number: AGR/PRM/006/L3

NSQ level: 3

Credit value: 3

Guided learning hours: 30

Practice Time: 150 hours

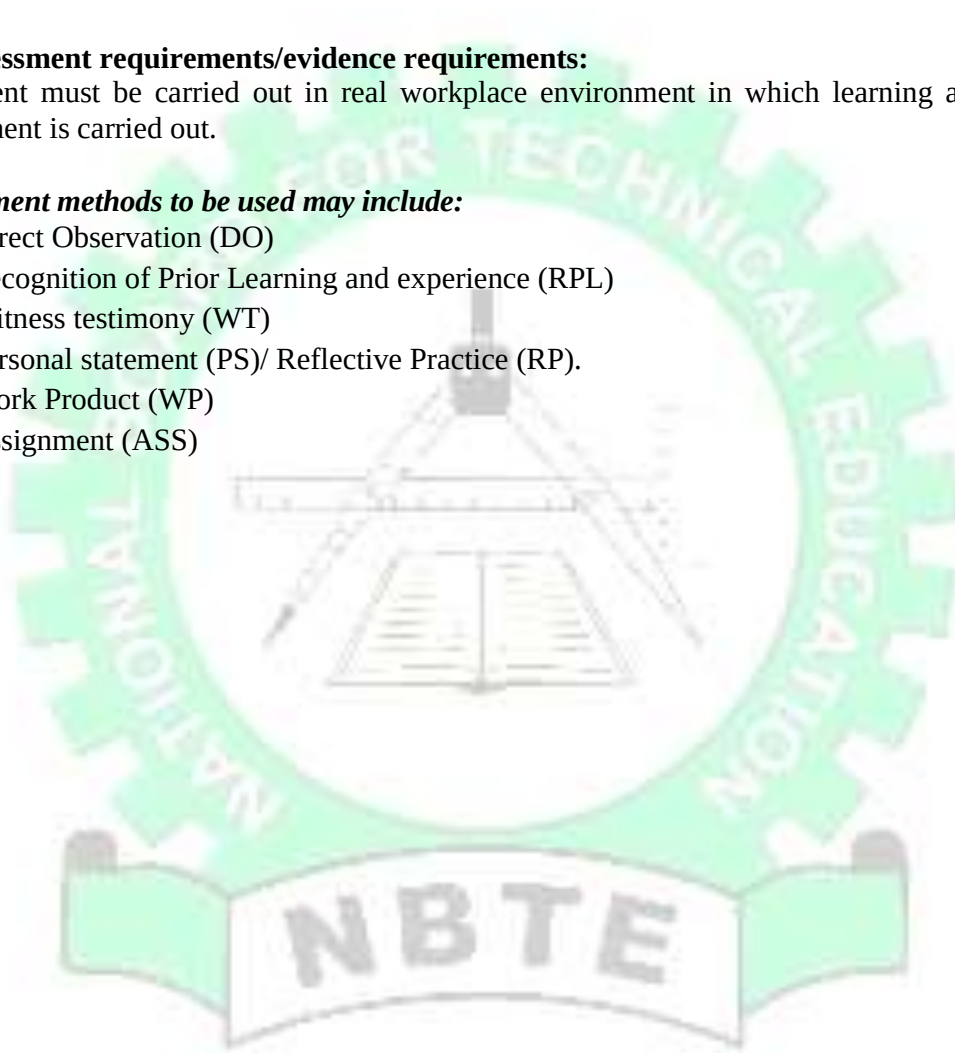
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills on how to protect an established pasture.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 006: Pasture Protection

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Explain fencing as a means of Pasture Protection	1.1	Explain the factors that determine type of fencing to be used								
	1.2	Explain the importance of protection in Pasture Protection								
	1.3	State the steps involved in fence maintenance								
LO 2: Explain fire tracing	2.1	Explain fire tracing as a means of pasture protection								
	2.2	Identify the factor that determine the suitability for fire tracing operation								
	2.3	Describe the ideal time when fire tracing is carried out								
LO 3: Explain the chemical treatment for pasture protection	3.1	Explain why chemical treatment is necessary in pasture protection								
	3.2	Compare the various methods of chemical treatment								
	3.3	List chemicals used to control common pest and disease								
	3.4	List the precautionary measures in applying chemical treatment								
LO 4: Carry out a simple fencing exercise	4.1	Select the suitable fencing type								
	4.2	Select the materials to be used for the fencing type								
	4.3	Identify the precautionary measures applied								
	4.4	Carry out the fencing exercise								
LO 5: Carry out fire tracing exercise	5.1	Adopt fire tracing method								
	5.2	Carry out a simple fire								

Protect an established pasture	7.1	Mention the reasons for pasture protection						
	7.2	Carry out physical observation of site						
	7.3	Carry out fencing using appropriate methods						
	7.4	Carry out fire tracing operations						
	7.5	Carry out chemical treatment in an established Pasture						
	7.6	Carry out a simple drill to protect an established pasture						

Signature:	Date:
Signature:	Date:
Signature (if sampled):	Date:
Signature (if sampled):	Date:

e (if sampled): _____ Date: _____



UNIT 007: SOWING AND VEGETATIVE PROPAGATION

Unit reference number: AGR/PRM/007/L3

NSQ Level: 3

Credit value: 3

Guided learning hours: 30 hours

Practice Time: 200 hours

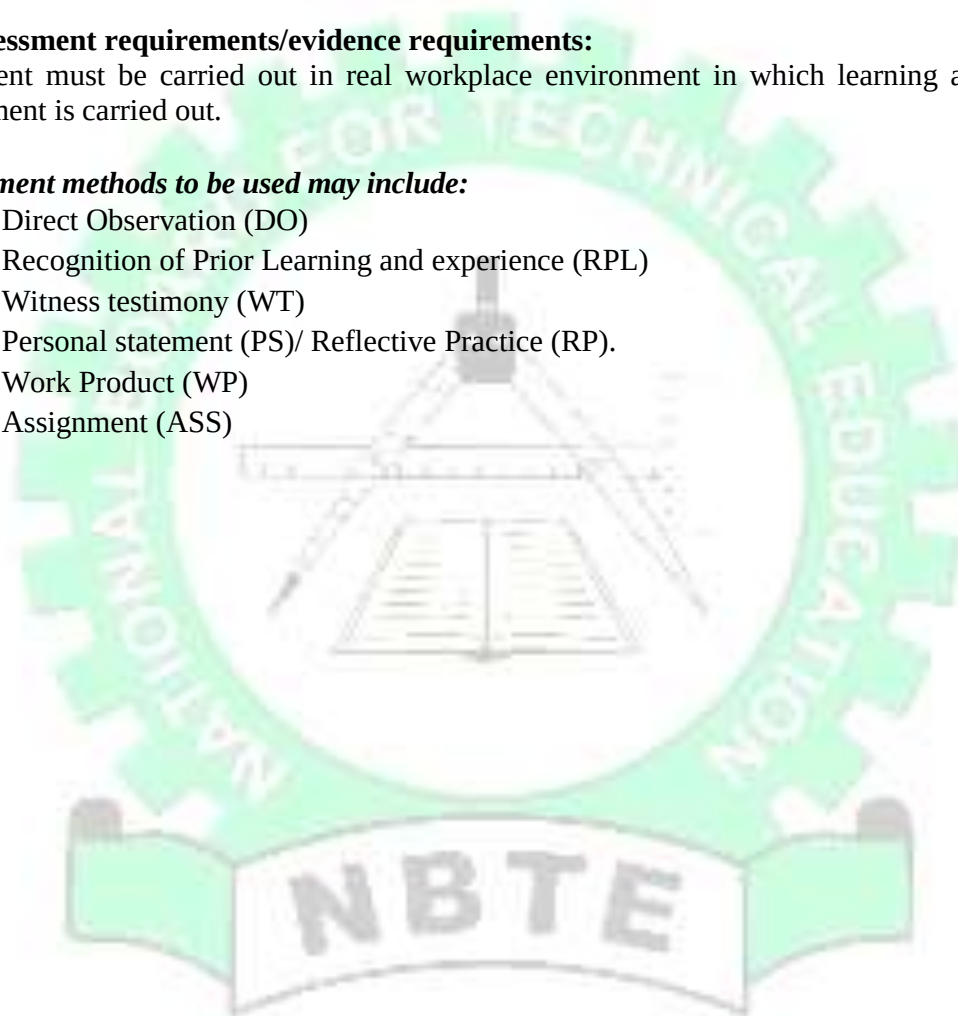
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required for sowing seeds and propagation of vegetative parts.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 007: Sowing and Vegetative Propagation

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type		Evidence Ref. Page No.
The learner will:		The learner can:			
LO 1: Identify the pasture seeds to be sown	1.1	Explain the varieties of pasture seeds available			
	1.2	Explain the importance of quality and purity in pasture seeds			
	1.3	Identify the various sources of obtaining good quality seeds			
LO 2: Recognize the vegetative materials	2.1	List vegetative parts that are used for pasture establishment			
	2.2	Explain the preparation of vegetative materials			
	2.3	Explain the importance of vegetative materials			
LO 3: Identify the growth characteristics of the pasture plants and vegetative parts	3.1	Explain the maturity time of pasture seeds and vegetative materials			
	3.2	Explain the growth habit of pasture seed plants and vegetative materials			
	3.3	Explain the planting distance (spacing) of pasture seed plants and vegetative materials			
	3.4	Explain disease resistance of pasture seeds and vegetative cuttings			
	3.5	State the fertilizer requirements of pasture seed plants and vegetative materials			
	3.6	Explain seed hardness in pasture seeds			
LO 4: Carry out sowing of pasture seeds to develop the pasture	4.1	Prepare the seed bed			
	4.2	Choose the appropriate planting method			
	4.3	Break seed dormancy where necessary			
	4.4	Sow the pasture seeds at the			

UNIT 008: FERTILIZER APPLICATION

Unit reference number: AGR/PRM/008/L3

NSQ Level: 3

Credit value: 3

Guided learning hours: 30 hours

Practice Time: 150 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required on fertilizers and their applications in pasture production and range management.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)

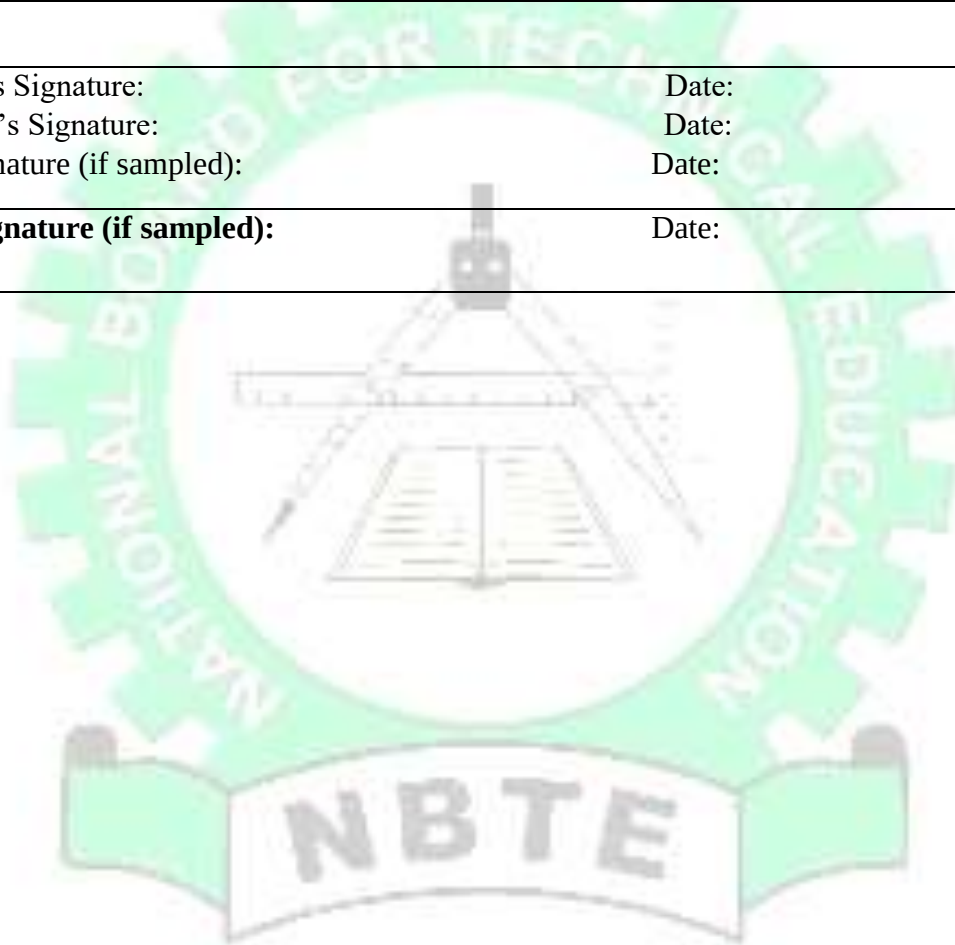


Unit 008: Fertilizer Application

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type						Evidence Ref. Page No.				
LO 1: Describe the characteristics of fertilizers	1.1	List the types of fertilizers											
	1.2	List the forms of fertilizers available											
	1.3	Explain the composition of fertilizers											
	1.4	State the sources of fertilizers											
	1.5	Explain the importance of fertilizers in pasture production and range management											
LO 2: Identify the methods of application of fertilizers in pasture production and range management	2.1	List the different methods of applying fertilizers											
	2.2	Explain the rate of applications											
	2.3	Explain the frequency of fertilizer applications											
	2.4	Explain how to apply fertilizers											
LO 3: Explain when to apply fertilizers	3.1	Explain the timing of fertilizer application for different pasture plants											
	3.2	State the factors that will determine when fertilizers should be applied for different pasture seeds and vegetative materials											
	3.3	Explain the fertilizer requirement per hectare											
LO 4: Select fertilizers for various use	4.1	Identify various types of fertilizers used in pasture production and range management											
	4.2	Select fertilizer for: - Legumes - Grass - Browse Plants											
	4.3	Determine the quantity of fertilizer to be used per hectare											

[illegible]

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:



UNIT 009: PASTURE MANAGEMENT

Unit reference number: AGR/PRM/009/L3

NSQ level: 3

Credit value: 3

Guided learning hours: 30 hours

Practice Time: 200 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required in pasture Management. It focuses on the control of weeds, pests and diseases in an established pasture.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 009: Pasture Management

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type				Evidence Ref. Page No.			
LO 1: Identify the difference between pasture seedlings and weeds	1.1	List the types of pasture seedlings								
	1.2	List the types of weeds								
	1.3	State the difference between pasture seedlings and weeds								
LO 2: Identify the types of herbicides in weeds control	2.1	Explain the importance of weed control in Pasture production and range management								
	2.2	List the common types of herbicides used in weed control								
	2.3	Explain time for herbicides application								
LO 3: Recognise the common types of pests and diseases in pasture cultivation	3.1	List the common types of pests in pasture cultivation								
	3.2	List the common types of diseases in pasture cultivation								
	3.3	Explain the effect of pests and diseases in pasture cultivation								
LO 4: Control weeds in an established pasture	4.1	Select weeds control methods								
	4.2	Determine the best time to control weeds in an established pasture								
	4.3	Select the equipment to be used in weed control								
	4.4	Carry out weeds control								
LO 5: Control pests and diseases in an established pasture	5.1	Identify the pests and diseases in an established pasture								
	5.2	Select the types of pesticides to be used								
	5.3	Select the appropriate equipment to be used in pest and disease control								

[illegible]

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:



UNIT 010: SEED AND PASTURE HARVEST

Unit reference number: AGR/PRM/010/L3

NSQ level: 3

Credit value: 5

Guided learning hours: 50 hours

Practice Time: 250 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required for on the different methods of harvesting seeds and pasture.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 010: Seed and Pasture Harvest

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1: Determine the time of harvest	1.1	Explain when the pasture and seeds are ready for harvest									
	1.2	Explain signs used to determine maturity of pasture seeds									
	1.3	Explain the maturity period of various pasture seeds									
	1.4										
LO 2: Describe the methods of harvest	2.1	Explain the different harvesting methods									
	2.2	List the factors to be considered in determining the harvesting methods to be used									
	2.3	State the advantages and disadvantages of the different harvesting methods									
LO 3: Identify the various harvesting equipment	3.1	List the various harvesting equipment									
	3.2	Describe the operational features of the common harvesting equipment									
	3.3	Explain the safety, precaution and care for harvesting equipment									
LO 4: Select mature pastures and seeds for harvest	4.1	Inspect pastures and seeds									
	4.2	Identify mature pastures and seeds									
	4.3	Select appropriate method for the harvest									
LO 5: Use appropriate harvesting equipment	5.1	Prepare the equipment for harvest operations									
	5.2	Carry out harvesting operations									
	5.3	Carry out post-harvest cleaning operations									
	5.4	Service the equipment and store.									

	5.5	Carry-out a drill exercise										
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Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:



UNIT 011: PASTURE CONSERVATION

Unit reference number: AGR/PRM/011/L3

NSQ Level: 3

Credit value: 3

Guided learning hours: 30 hours

Practice Time: 150 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required on how to conserve pasture for future use.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 011: Pasture Conservation

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. Page No.			
The learner will:		The learner can:								
LO 1: Identify the methods of pasture conservation	1.1	Explain the importance of pasture conservation								
	1.2	Explain the different methods of pasture conservation								
	1.3	List the advantages and disadvantages of silage and haymaking								
LO 2: Explain the appropriate time for pasture conservation	2.1	State the steps involved in processing pastures for conservation								
	2.2	Explain the factors to be considered in pasture conservation								
	2.3	Explain the indicators considered for pasture conservation								
LO 3: Recognise the time for utilization of conserved pasture	3.1	Explain the annual period of feeds scarcity								
	3.2	Explain supplementation period								
	3.3	Explain the types of forage used for supplementation								
LO 4: Carry out conservation of harvested pastures	4.1	Select pasture for conservation								
	4.2	Select the appropriate methods of conservation								
	4.3	Carry out the conservation by harvest								
	4.4	Carry out the conservation by fallow								
LO 5: Determine the time for utilization of conserved pasture	5.1	Identify periods of feed scarcity								
	5.2	Identify appropriate periods for rotational grazing								
	5.3	Identify periods supplementation is required								

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:



UNIT 012: PASTURE PRODUCTS MARKETING

Unit reference number: AGR/PRM/012/L3

NSQ level: 3

Credit value: 3

Guided learning hours: 30 hours

Practice Time: 100 hours

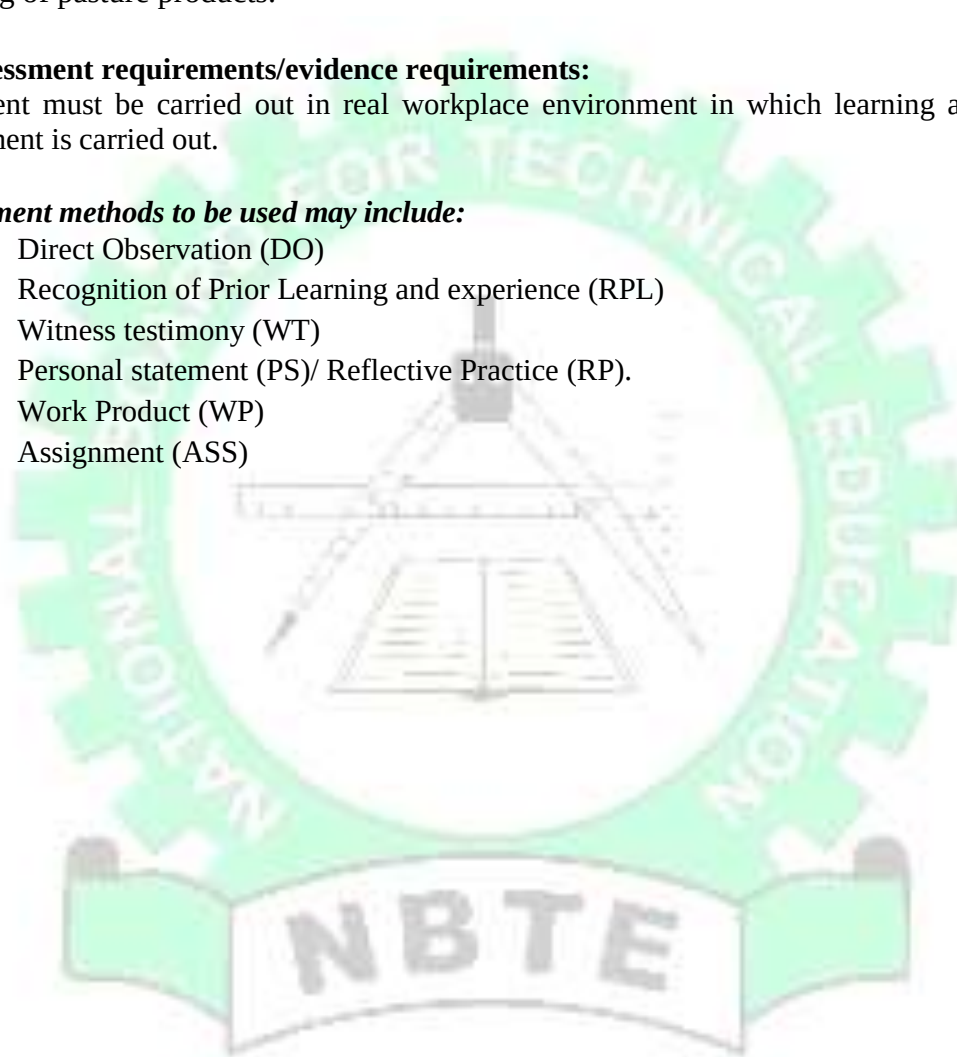
Unit Purpose: The purpose of this unit is to equip learners with knowledge skills on the marketing of pasture products.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 012: Pasture Products Marketing

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type				Evidence Ref. Page No.			
The learner will:		The learner can:								
LO 1: Identify pasture products	1.1	List the pasture products								
	1.2	Explain the methods of storing pasture products								
	1.3	Describe mode of transporting pasture products								
	1.4	Explain the different packaging techniques for pasture products								
	1.5	Explain the importance of quality and seed purity in pasture products								
LO 2: Explain when to market pasture products	2.1	Explain the marketing strategy for pasture products								
	2.2	State best time to start marketing pasture products								
	2.3	Explain the pricing regime for pasture products								
LO 3: Explain the customers' needs	3.1	Identify target customer								
	3.2	Explain the importance of customer satisfaction								
	3.3	Explain the need for feedback channel								
	3.4	Explain how to manage records of sales								
LO 4: Identify targeted customers	4.1	Carry out market survey								
	4.2	Source for potential customers								
	4.3	Identify locations of potential customers								
LO 5: Carry out Pasture Product Marketing	5.1	Identify Customer's needs								
	5.2	Identify price regime for the product								
	5.3	Select product to be marketed								
	5.4	Package product to meet customers' specification								
	5.5	Identify mode of								

		transportation of product											
	5.6	Market the product											

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:



UNIT 013: BASIC ANIMAL HUSBANDRY PRACTICES

Unit reference number: AGR/PRM/013/L3

NSQ level: 3

Credit Value: 3

Guided Learning Hours: 30 hours

Practice Time: 100 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to supervise and manage livestock husbandry activities within pasture and rangeland ecosystems.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 013: Basic Animal Husbandry Practices 3 Unit 013: Grazing Management II

LEARNING OUTCOME (LO)		PERFORMANCE CRITERIA	Evidence Type	Evidence Ref. Page No.
The learner will:		The learner can:		
LO 1: Manage livestock feeding and pasture utilization.	1.1	Evaluate pasture quality and quantity.		
	1.2	Determine supplementary feeding requirements.		
	1.3	Develop drought feeding strategies.		
	1.4	Develop optimum pasture utilization efficiency.		
	1.5	Monitor livestock performance.		
LO 2: Implement animal welfare and biosecurity Programmes	2.1	Develop herd health plans.		
	2.2	Coordinate disease surveillance activities.		
	2.3	Implement biosecurity protocols.		
	2.4	Monitor parasite control Programmes.		
	2.5	Maintain livestock records and databases.		
LO 3: Implement climate-smart pasture utilization techniques	3.1	Assess climate risks affecting forage utilization by livestock.		
	3.2	Implement heat stress mitigation measures.		
	3.3	Develop drought preparedness plans.		
	3.4	Integrate water conservation measures into livestock Management.		
	3.5	Carry out climate-resilient pasture production and range management and utilization practices		
LO 4: Manage livestock records and enterprise performance	4.1	Maintain production records.		
	4.2	Analyse livestock performance indicators.		
	4.3	Calculate basic production costs and returns.		
	4.4	Livestock Management		

[illegible]

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:

UNIT 014: GRAZING MANAGEMENT

Unit Reference Number: AGR/PRM/014/L3

NSQ Level: 3 **Credit Value:** 2 **Guided Learning Hours:** 20 hours

Practice Time: 60 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to plan, implement and monitor advanced grazing Management systems.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 014: Grazing Management

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type						Evidence Ref. Page No.				
LO 1: Estimate carrying capacity of pasture land	1.1	Estimate available forage biomass.											
	1.2	Calculate forage requirements of livestock.											
	1.3	Determine carrying capacity of a pasture land.											
	1.4	Explain carrying capacity results.											
LO 2: Determine stocking rates	2.1	Calculate stocking rates.											
	2.2	Match livestock numbers with available forage.											
	2.3	Adjust stocking rates based on seasonal conditions.											
	2.4	Monitor grazing pressure.											
LO 3: Develop grazing plans	3.1	Prepare grazing calendars.											
	3.2	Allocate grazing areas.											
	3.3	Schedule grazing rotations.											
	3.4	Monitor implementation of grazing plans.											

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:



UNIT 015: RANGE MONITORING AND ASSESSMENT

Unit Reference Number: AGR/PRM/015/L3

NSQ Level: 3 **Credit Value:** 2 **Guided Learning Hours:** 20 hours

Practice Time: 60 hours

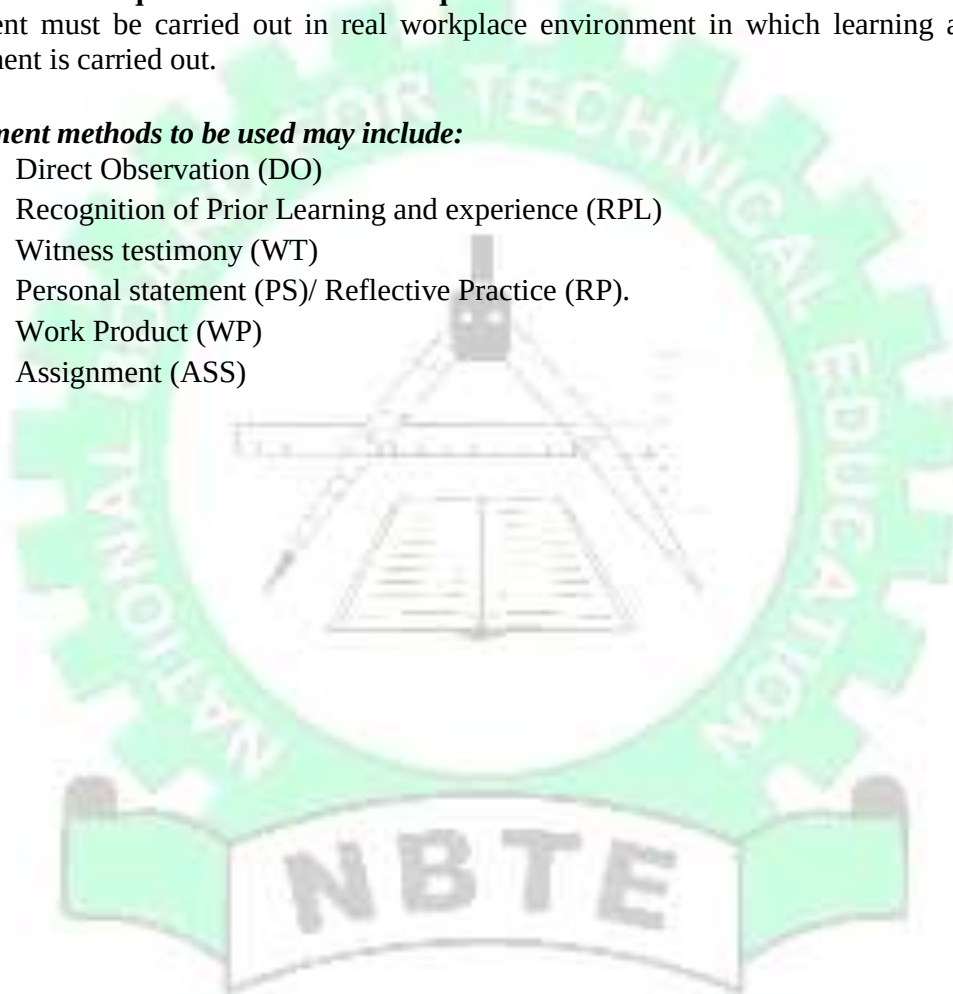
Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to monitor and assess rangeland condition and performance.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 015: Range Monitoring and Assessment

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1: Conduct range condition assessment	1.1	Identify range condition indicators.									
	1.2	Assess vegetation cover.									
	1.3	Assess species composition.									
	1.4	Assess soil condition.									
	1.5	Classify range condition									
LO 2: Monitor rangeland performance	2.1	Establish monitoring points.									
	2.2	Conduct vegetation surveys.									
	2.3	Record field observations.									
	2.4	Analyse monitoring results.									
	2.5	Recommend corrective actions.									
LO 3: Collect pasture and rangeland data	3.1	Identify data requirements.									
	3.2	Select appropriate data collection tools.									
	3.3	Collect field data.									
	3.4	Maintain data records.									

Learner's Signature:	Date:
Assessor's Signature:	Date:
IQA Signature (if sampled):	Date:
EQA Signature (if sampled):	Date:

UNIT 016: RANGE ECOLOGY AND HEALTH

Unit Reference Number: AGR/PRM/016/L3

NSQ Level: 3 **Credit Value:** 2 **Guided Learning Hours:** 20 hours

Practice Time: 60 hours

Unit Purpose: The purpose of this unit is to equip learners with knowledge and skills required to assess and maintain rangeland ecology and ecosystem health.

Unit assessment requirements/evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used may include:

1. Direct Observation (DO)
2. Recognition of Prior Learning and experience (RPL)
3. Witness testimony (WT)
4. Personal statement (PS)/ Reflective Practice (RP).
5. Work Product (WP)
6. Assignment (ASS)



Unit 016: Range Ecology and Health

LEARNING OUTCOME (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1: Explain rangeland ecology	1.1	Explain ecological principles of rangelands.									
	1.2	Monitor plant succession.									
	1.3	Identify rangeland ecosystems.									
	1.4	Explain ecosystem interactions.									
LO 2: Assess rangeland health	2.1	Identify indicators of rangeland health.									
	2.2	Assess vegetation status.									
	2.3	Assess soil stability.									
	2.4	Assess biodiversity status.									
LO 3: Recommend sustainable ecological Management practices	3.1	Recommend measures for improving vegetation cover.									
	3.2	Promote biodiversity conservation.									
	3.3	Recommend soil conservation measures.									
	3.4	Monitor ecological recovery.									

Learner's Signature:

Date:

Assessor's Signature:

Date:

IQA Signature (if sampled):

Date:

EQA Signature (if sampled):

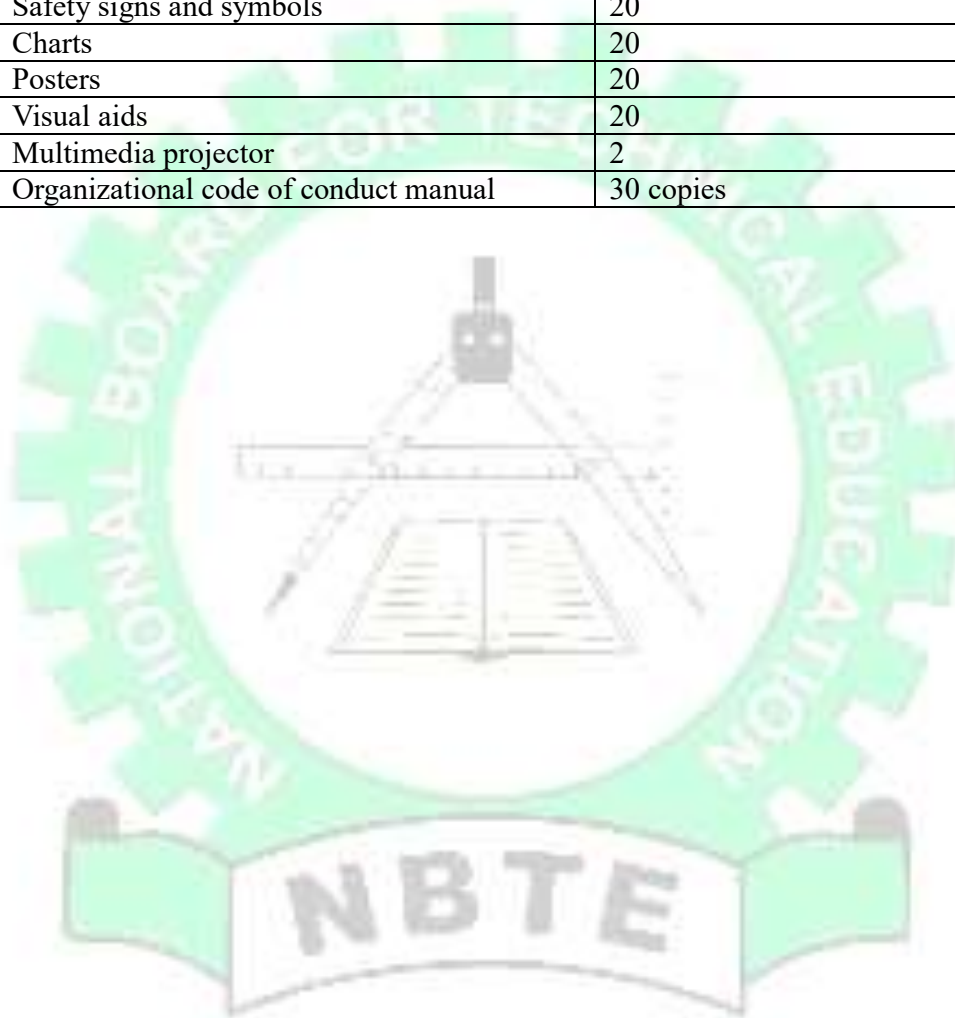
Date:

LIST OF EQUIPMENT

S/N	Tools/Equipment/Items/Resources	Quantity (30 Learners)
1	Beef cattle (training herd)	15 animals
2	Calves	6
3	Bull	1
4	Cattle crush	2
5	Head gate	2
6	Ropes	15
7	Ear tags (set)	100
8	Ear tag applicator	5
9	Grooming brushes/kits	15
10	Hoof knife	15
11	Hoof trimmer	15
12	Dehorner	5
13	Castration kit	5
14	Knapsack sprayer	15
15	Drench gun	10
16	Automatic syringe	5
17	Syringes	30
18	Needles (pack)	10 packs
19	Clinical thermometer	15
20	Strip cup	15
21	California Mastitis Test Kit	5
22	Drug measuring utensils	15
23	Foot bath	2
24	Cattle dip	1
25	Disinfectants	20 litres
26	First aid box	2
27	Dressing materials	2 sets
28	Fire extinguisher	4
29	Waste bins	6
30	Manure pit	1
31	PPE (overall, boots, gloves, apron, head cover, nose cover)	30 complete sets
32	Feed troughs	15
33	Water troughs	15
34	Feed ingredients	1 complete training set
35	Compounded feed	1 tonne
36	Mineral supplements	30 kg
37	Vitamin supplements	30 kg
38	Salt licks	15
39	Forage grasses	1 training plot
40	Legume forage	1 training plot
41	Crop residues	1 training set
42	Water supply	1 functional system
43	Cutlasses	15
44	Sickles	15
45	Hoes	15
46	Garden forks	15
47	Rakes	15

48	Shovels	15
49	Wheelbarrows	15
50	Head pans	15
51	Weighing scales	5
52	Measuring buckets	15
53	Measuring cylinders	15
54	Measuring tape	15
55	Feed store	1
56	Pallets	20
57	Milking parlour	1
58	Portable milking machine	5
59	Milking buckets	15
60	Milk utensils	15 sets
61	Milk churns	10
62	Milk cans	15
63	Milk storage tank	1
64	Cooling facility	1
65	Refrigerator/Freezer	2
66	Milk sieve/filter	15
67	Teat dip cups	15
68	Udder cloths	30
69	Lactometer	10
70	Steam generator	1
71	Sodium hypochlorite	20 litres
72	Scrubbing brushes	15
73	Drying racks	5
74	Gas cylinder	2
75	Cooking pot	2
76	Napkins	30
77	Detergent	20 litres
78	Heat detection kit	5
79	Artificial insemination kit (demonstration)	2
80	Calving pen	2
81	Calf pen	2
82	Calf feeding buckets	15
83	Calf teats	15
84	Iodine (navel dressing)	5 litres
85	Reproduction record cards	100
86	Forage chopper	2
87	Hay baler	1
88	Silo/Bunker	2
89	Polythene sheets	20
90	Silage additives (molasses)	50 litres
91	Old tyres/weights	20
92	Fodder demonstration plot	1
93	Planting materials	1 complete set
94	Record books	30
95	Ledgers	10
96	Cow record cards	100

97	Farm diary	10
98	Milk record sheets	100
99	Sales record cards	100
100	Stock cards	100
101	Calculator	15
102	Farm work schedule	5
103	Duty roster board	2
104	Notice board	2
105	Record cards	100
106	Flip charts	10
107	Mobile phone	15
108	Safety signs and symbols	20
109	Charts	20
110	Posters	20
111	Visual aids	20
112	Multimedia projector	2
113	Organizational code of conduct manual	30 copies



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